

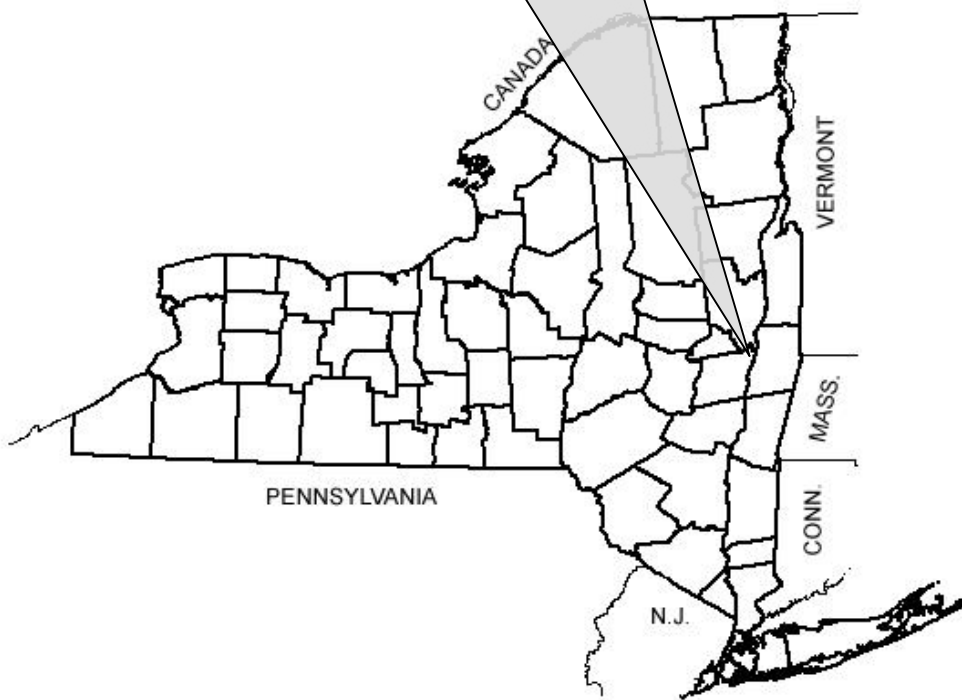
TRANSPORTATION

FINAL DESIGN REPORT / ENVIRONMENTAL IMPACT STATEMENT

Appendix L – Bridge Information

August 2014

Highway Project
P.I.N. 1721.51
BINs: 1033141 / 1033142
Interstate 87 (I-87) Exit 4 Access
Improvements
Albany County



U.S. Department of Transportation Federal Highway Administration

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

ANDREW M. CUOMO, Governor

JOAN McDONALD, Commissioner

PROJECT SHEET



BIN 1033141

Carried: I-87 87I11082027

Crossed: Albany-Shaker Road

Inspection Date: 11/4/2012**RC: 11 BIN: 1033141****Bridge Ratings****Carried: 87I 87I11082027****Crossed: ALBANY SHAKER RD****CheckValue: 1,803,979,717**

Inspection Agency: 13 - Consultant Type of Inspection: 1 - BIENNIAL
GTMS: 302 -- Steel - Stringer/Multi-Beam or Girder
POSTINGS: See Gen Rec Page 1 for Postings at time of inspection.
Further Investigation Needed: Analytical review of deteriorated br. rail support system.
State Highway Number: 57-17 Milepoint: 161.05 AADT/Yr: 120412 / 2005
Orientation: 2 - Northeast Political Unit: 0187 - Town of COLONIE Year Built: 1959
Total Spans: 3 Ramp Bridge Attached To Span: NA BIN: NA
General Recommendation: 4 Computed Condition Rating: 3.953

Abutment Ratings:**Beg Abut****End Abut**

Joint with Deck	4	4
Bearings, Bolts, Pads	5	4
Seats and Pedestals	6	6
Backwall	5	5
Stem (Breastwall)	8	8
Erosion or Scour	5	4
Footings	9	9
Piles	9	9
Recommendation	5	5

Wingwall Ratings:**Beg Abut****End Abut**

Walls	6	6
Footings	9	9
Erosion or Scour	6	6
Piles	9	9

Channel Ratings:**Channel**

Stream Alignment	8
Erosion and Scour	8
Waterway Opening	8
Bank Protection	8

Approach Ratings:**Approaches**

Drainage	6
Embankment	6
Settlement	5
Erosion	4
Pavement	4
Guide Railing	4

Number of Flags Issued:

RED: 0 Yellow: 1 Safety: 0

Vulnerability Reviews Recommended: 1=Yes, 2=No, 3=NA, X=NotActive

Hydraulic: 3	Overload: X	Steel: 2
Collision: 2	Concrete: X	Seismic: X

Inspector's Signature:**CheckValue: 1,803,979,717****Date: 11/4/2012****Phil C. Pierce, PE () (Inspector ID:1120096)**Signed copy of this inspection report is available
in the appropriate NYSDOT Regional Office**Reviewed By:****Date: 12/16/2012****William J. Sabbag, PE () (QC ID:1120078)**Signed copy of this inspection report is available
in the appropriate NYSDOT Regional Office

Inspection Date: 11/4/2012**RC: 11 BIN: 1033141****Span Ratings****Carried: 87I 87I11082027****Crossed: ALBANY SHAKER RD****CheckValue: 1,803,979,717****Deck Element Ratings:**

	001	002	003
Wearing Surface	5	5	5
Curbs	5	5	5
Sidewalks, Fascias	5	5	5
Railings, Parapets	3	3	3
Scuppers	5	8	6
Gratings	8	8	8
Median	8	8	8
Mono Deck Surface	8	8	8

Superstructure Ratings:

	001	002	003
Structural Deck	3	4	3
Primary Members	4	4	4
Secondary Members	5	5	5
Paint	3	3	3
Joints	3	2	8
Recommendation	4	4	4

Pier Ratings:

	001	002	003
Bearings, Bolts, Pads	3	3	8
Pedestals	4	4	8
Top of Cap or Beam	4	4	8
Stem Solid Pier	8	8	8
Cap Beam	3	4	8
Pier Columns	3	4	8
Footings	9	9	8
Erosion or Scour	7	7	8
Piles	9	9	8
Recommendation	3	4	8

Utility Ratings:

	001	002	003
Lighting	8	8	8
Sign Structure	8	4	8
Utilities and Support	8	8	8

Field Notes:

Field Date	Arrival	Departure	Temp (C)	Temp (F)	Weather Conditions
10/13/2012	10:30:00 AM	1:00:00 PM		65	clear
11/4/2012	7:30:00 AM	10:30:00 AM		45	clear

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Note ID: 1P1210331410000

Beg Abut -- Abutment: Joint with Deck -- Rated 4, Was 4

Approaches: Pavement -- Rated 4, Was 4

End Abut -- Abutment: Joint with Deck -- Rated 4, Was 4

Referenced Photos: "1", "2", "3", "4"

2012:

The joint seals are intact along 90 percent of the width at both abutments.

At the Begin Abutment, there are asphalt patches in the Left lane and mapcracking on either side of the joints - ride is somewhat rough in the Left Lane. There is little indication of water leaking through at the Begin Abutment at this time. Photos 1 & 2. The rating at the Begin Abutment is reduced from 5 to 4 due to the ride quality, especially for high-speed traffic.

At the End Abutment, there is asphalt cracking and settling along the right side for a length of 10 ft, starting at the curb - Photo 4 <12-900>. Below on the Bay 5 backwall, there is full height, heavy efflorescence staining with small areas of delaminated concrete. Otherwise, there are no other indications of water leaking through. The rating at the End Abutment is retained at 4 due to ride quality and evidence of leaking in Bay 5.

Other than the pavement adjacent to the joint at the abutment, the pavement at both approaches would rate 5, but retain a rating of 4 for approach pavement for consistency.

Note ID: 1P1210331410011

Beg Abut -- Abutment: Bearings, Bolts, Pads -- Rated 5, Was 5

Referenced Photos:

2012:

The Left anchor bolt of Girder 5 is bent forward about 10 degrees - this condition appears to be old - probably an as-built condition. No downrating required for this.

Note ID: 1P1210331410003

Approaches: Erosion -- Rated 4, Was 4

Referenced Photos: "6"

2012:

At the end of the Begin Right wingwall, there is a 4.5' wide x 1.5' deep erosion gully that extends 10'+/- down the embankment. The erosion is adjacent to the edge of stone fill. It is not clear if the stone was intended to fill this erosion pocket or if additional erosion has occurred. The balance of the item rates 5 or better.

Note ID: 1P1210331410005

Approaches: Guide Railing -- Rated 4, Was 4

Referenced Photos: "7"

2012:

At the End Left guide rail, the box beam and the first 6 posts have impact damage. Post 3 is severed at the base and the remaining 5 posts lean and twist to varying degrees away from the roadway. The rail is firm and appears to be still functional. The balance of the item would rate 5 or 6.

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Note ID: 1P1210331410006

Span 001 -- Deck Elements: Railings, Parapets -- Rated 3, Was 5

Span 002 -- Deck Elements: Railings, Parapets -- Rated 3, Was 5

Span 003 -- Deck Elements: Railings, Parapets -- Rated 3, Was 5

Referenced Photos: "62", "9", "23", "8"

2012:

In all 3 spans the bridge rail post anchorages are bolted through a steel plate support structure. There is a build-up of pack rust under the rail post base plates. This pack rust, potentially in combination with other forces, is causing failure of the rear anchor bolt at seemingly random post locations. The nut and shank break off of the bolt at the top of the base plate. There are a total of 3 anchor bolts per post; therefore, loss of one bolt is a significant effect on the capacity of the anchorage system. The bolts remain in place only by rust and friction. At those locations with broken bolts observed during this inspection, the nut and shank portion was missing - potentially having fallen off of the side to ground/roadway below, or onto the shoulder of the bridge deck. Hence, there is a significant risk of bolt pieces falling from Span 2 onto traffic below.

The following locations were found to have the outboard bolt broken:

Span 3 - Right side, the 1st post - photo 8 <12-5704>.

Additionally - the bridge rail has been retrofitted in the past with a pair of box beams in front of the original 2 rail system. The extra box beams are anchored to the posts with bolts and plates on the rear face of the post. In some instances, the rear plates have become loose and rotated becoming partially or fully ineffective in anchoring the box beam. The following locations were noted:

Span 2, Right side, 2nd post - loose plate,

Span 3, Left side, 2nd and 4th posts - loose plate, photo 9 <12-5703>.

Current conditions are not judged to warrant a flag, but should be reviewed carefully during subsequent inspections for additional examples.

Another issue - the bridge rail system is supported by metalwork that includes short metal posts atop the fascia girder flanges that are badly corroded. The overall supporting network is comprised to some extent, yet it should be examined more analytically to determine the actual affect - "Further Investigation" is indicated in this report. Photo 23 <12-5749> provides an overview of rear supporting structure for bridge rail posts - Left side at Pier 2. Photo <12-6822> provides a closer view of deteriorated metal support and concrete fill - Left side at the Begin of Span 2 over Pier 1.

Condition rating lowered to 3 for all spans due to the poor condition of the rail support steel work and weakened post connections.

Note ID: 1P1210331410007

Span 001 -- Superstructure: Structural Deck -- Rated 3, Was 3

Span 002 -- Superstructure: Structural Deck -- Rated 4, Was 4

Span 003 -- Superstructure: Structural Deck -- Rated 3, Was 3

Referenced Photos: "11", "12", "13", "10"

2012

SPANS 1 & 3:

Where the steel grating was replaced with concrete, the concrete deck in Bays 1 and 6 exhibit widespread cracking and deck leakage as evidenced by the rust and efflorescence staining and

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Note ID: 1P1210331410007 - continued

stalactites. Several of the horizontal reinforcing bars are partially exposed with minor section loss. The concrete was hollow sounding at many locations; rates 3. See photos 10 <12-887> & 11 <12-6927>. The remaining bays exhibit widespread cracking with water and light efflorescence staining; would rate 4.

SPAN 2:

There is widespread mapcracking with water staining and areas of light efflorescence staining; rates 4. See photo 12 <12-5726>.

In Bay 2 near Pier 2, there is a 24" long x 16" wide x 2" to 3" deep spall at the underside of deck. The 2011 inspection cited that loose concrete was removed within and around the spall during the inspection. The concrete within the spall was crumbly [probably moist also] and the surrounding concrete was hollow sounding. Accordingly, Safety Flag 1T110017 was issued due to risk of falling material onto Albany Shaker Road.

During this inspection, the concrete surface exposed during 2011 had hardened and no new loose concrete was dislodged even upon substantial hammering - photo 13 <12-5731>. Therefore, the previous safety flag is removed this inspection and no new flag will be issued at this time. Rate condition 4.

Please refer to the Underside of Deck sketches for additional information.

Note ID: 1P1210331410008

Span 001 -- Superstructure: Primary Members -- Rated 4, Was 4

Span 002 -- Superstructure: Primary Members -- Rated 4, Was 5

Span 003 -- Superstructure: Primary Members -- Rated 4, Was 4

Referenced Photos: "14", "20", "21", "61", "18", "19", "15", "16", "17"
2012:

Spans 1, 2 & 3

Intermediate longitudinal stringers in Spans 1 & 3 - Bays 1 and 6 - rate 4:

These elements previously supported the open steel grating exhibit moderate corrosion and steel delamination. The worst deterioration occurs at the following locations:

1. Span 1, Bay 1, Panel 4: full length, bottom flange thickness reduced approximately 50%. See photo 61 <12-2833>.

2. Span 1, Bay 6, Panel 1: full length, bottom flange thickness reduced approximately 40%. See photo 14 <12-2810>.

3. Span 3, Bay 1, Panel 4: full length, bottom flange thickness reduced approximately 40%. - Photo 15 <12-887>.

The floorbeams that support the intermediate stringers are in fair to good condition and would rate 5.

Primary Girders:

Spans 1 & 3:

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Note ID: 1P1210331410008 - continued

- The bearing stiffener/end diaphragm connection plate at the right side end of Girder 1 in Span 3 is bent towards the end slightly, but noticeably below the diaphragm to the bottom flange - see photos 16 <12-913> & 17 <12-916>. This appears to be an as-built condition.
 - the girders have minor section loss from corrosion, especially on the outside of the fascia girders and on the webs/flanges near the ends from joint leakage.
- The girders would rate 5 overall.

In Span 2, G1 has a slight sweep due to previous impact damage and subsequent repair - no change from previous photos was observed - photo 18 <12-5756a>. All girders have scrape marks to the underside of the the bottom flange, but all exhibit corrosion that indicates that this is not a new condition. See photo 19 <12-6893>. The rating would be 5.

End Diaphragms - all spans - rate 4:

The diaphragms at both piers for all three spans are corroded from joint leakage. At Spans 2 & 3, Bay 4 (above Pier 2), the bottom flanges of the diaphragms have lost up to 50% of its section - photo 21 <12-5721>. Spans 1 & 2, Bay 4 (above Pier 1) - similar to above - photo 20 <12-6856>.

Note ID: 1P121033141000C

Span 001 -- Superstructure: Paint -- Rated 3, Was 1

Span 002 -- Superstructure: Paint -- Rated 3, Was 4

Span 003 -- Superstructure: Paint -- Rated 3, Was 1

Referenced Photos: "11", "20", "15", "19", "21", "22", "23"
2012:

In Spans 1 and 3, the stringers and floorbeams that supported the previous steel grating in Bays 1 and 6 exhibit paint failure that has lead to some section loss of these steel members, however, the condition rating of 1 of the past two inspections is inappropriately harsh - raise rating to 3 inasmuch as the areas of complete paint loss are localized and not widespread. See Photos 11 <12-6927> & 15 <12-887>.

The remaining steel members exhibit peeling paint in the outside bays and along the outside fascia beams. There is pinpoint corrosion along many portions of the top and bottom flanges of the interior beams and more extensive loss of paint and initial corrosion at all ends under the joints; would rate 4. See Photos 20 <12-6856>, 21 <12-5721>, 22 <12-5738> & 23 <12-5749>.

In Span 2, the outside of the fascia beams exhibit peeling paint and initial section loss from corrosion - photo 23 <12-5749>. There is pinpoint corrosion along many portions of the top and bottom flanges of the interior beams; rates 4. See Photo 19 <12-6893>.

Note ID: 1P1210331410009

Span 001 -- Superstructure: Joints -- Rated 3, Was 3

Span 002 -- Superstructure: Joints -- Rated 2, Was 3

Referenced Photos: "20", "28", "60", "22", "23", "59"
2012:

Above Pier 1, the asphalt adjacent to the joint seal is cracked and beginning to break apart, especially in the right shoulder. At the underside of the joint, the concrete header is spalled at several locations. Although there was no evidence of active leaking, the pier bearings, cap beam,

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Note ID: 1P1210331410009 - continued

and pedestals exhibit varying degrees of deterioration, which may be an indication of water leaking through. The pier 1 joint is condition rating is maintained at 3. See Photos 20 <12-6856>, 28 <12-6839>, and 60 <12-6809>

Above Pier 2, the the asphalt adjacent to the joint seal continues to crack and has expanded further in to the travel lanes. The surrounding asphalt has or is beginning to break up - photo 59 <12-5744>. There are signs of active leaking, especially in Bays 1 and 2 and this is evident by the cementitious appearing coating of the metal work and pier cap - photos 22 <12-5738> and 23 <12-5749>. This leakage contributes to deterioration of the pier elements. The underside of joint in several bays exhibits broken off pieces of the concrete header. The surface coating does not appear in photos from previous inspections and appears to be more recent - accordingly, the condition rating is lowered to 2.

Note ID: 1P121033141000A

Span 001 -- Pier: Bearings, Bolts, Pads -- Rated 3, Was 4

Span 002 -- Pier: Bearings, Bolts, Pads -- Rated 3, Was 4

Referenced Photos: "24", "25", "28", "22", "26", "27"

2012:

At Pier 1, the Span 1 expansion bearings (sliders) are all over expanded, mostly flush with the masonry plate at 90 degrees F. The Span 1 expansion bearings exhibit corrosion on the sliding surfaces, allowing the plates to bow up. The Span 2 fixed bearings also exhibit corrosion in the hinged portion of the bearing. The remaining bearing components exhibit moderate to heavy corrosion. The G7 bearing appears to be the worst with the anchor bolt nuts exhibiting 80 to 90 percent section loss - photo 25. There also is a build up of dirt and debris on most of the bearings that inhibits movement. See Photo 24. Rate condition 3.

At Pier 2, all bearings are expansion type. The sliders are incorrectly positioned. The Span 2 sliders are mostly contracted some from mid-position and the Span 3 sliders are mostly flush with end of masonry plate. The bearings exhibit moderate to heavy corrosion and no sign of movement was detected. There is a build up of dirt and debris on some of the bearings that also inhibits movement. See photos 26 <12-5720> (Pier 2, G3 right) and 27 <12-5752> (Pier 2, G1 Left). Rate condition 3.

Note ID: 1P121033141000D

Span 001 -- Pier: Pedestals -- Rated 4, Was 3

Span 002 -- Pier: Pedestals -- Rated 4, Was 4

Referenced Photos: "29", "30", "31", "32", "33", "34"

2012:

At Pier 1, several pedestals exhibit deterioration as follows:

G4 pedestal: the left side exhibits horizontal cracking 3" to 4" from the top and bottom of the pedestal with vertical cracking intermittently in between. There is a 1 square foot, shallow spall at the span 1 portion of the pedestal. See Photo 29 <12- 6849>.

G5 pedestal: the end face exhibits up to 3" deep spalling over 70 percent of the face with exposed reinforcing bars. The spall wraps around to the right face with the top right corner broken off. The underlying concrete was delaminated at several locations and removed. See

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Note ID: 1P121033141000D - continued

Photo 30 <12-6868>. The remaining faces exhibit minor cracking with areas of hollow sounding concrete.

G6 pedestal: the end and left faces exhibit map cracking over 25 percent of the surface with small areas of hollow sounding concrete. At the end face is a shallow spall with hard, underlying concrete - also depicted in Photo 30 <12-6868>.

Given no affect to bearing areas at any pedestal, this inspector believes the previous condition rating of 3 for Pier 1 pedestals to be too harsh and is hereby raising it to 4.

At Pier 2, the concrete pedestals exhibit deterioration as follows:

G1 Pedestal - a spall exists on the front face - about 18 inches square - rebars exposed - Photo 31 <12-5741>.

G2 Pedestal - a corner at Begin Right was cracked and knocked off this inspection - about 6 inch wide by 8 inch tall by 11 inch long - to rebar - photo 32 <12-5732>.

G3 Pedestal: the Left side has a 21 inch long x 12 inch high x 7 inch deep spall at the top corner with exposed reinforcement. The spall has not reached the bearing and the underlying concrete is solid. See Photo 33 <12-5733>. The remaining faces exhibit map cracking with scattered areas of hollow sounding concrete.

G6 Pedestal: the Begin face exhibits a 2 ft+/- diameter area of hollow sounding concrete, along with a 1 inch deep spall along a 1.5 ft long x 4 inch to 6 inch wide area. See Photo 34 <12-5716>.

The remaining pedestals are in fair to good condition; rates 5.

Note ID: 1P121033141000E

Span 001 -- Pier: Top of Cap or Beam -- Rated 4, Was 4

Span 002 -- Pier: Top of Cap or Beam -- Rated 4, Was 4

Referenced Photos: "30", "35", "48"

2012:

The top of the cap beam for both piers is generally clear of debris. In most bays, the epoxy coating is deteriorated with cracking and peeling allowing leakage into pier and the top surface is rough with isolated areas of hollowness and shallow spalls.

At Pier 1 in Bay 5 the end corner is spalled full bay width x 6"wide x 10"high x 3"-4"D - photo 30 <12-6868>.

At Pier 2, Bay 6, the Begin top edge contains a crack and small spall - photo 48 <12-5710>.

Rating remains 4 for both piers.

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Note ID: 1P121033141000F

Span 001 -- Pier: Cap Beam -- Rated 3, Was 3

Span 001 -- Pier: Pier Columns -- Rated 3, Was 3

Span 002 -- Pier: Cap Beam -- Rated 4, Was 4

Span 002 -- Pier: Pier Columns -- Rated 4, Was 4

Referenced Photos: "30", "36", "37", "38", "39", "40", "41", "42", "43", "44", "45", "46", "47", "49", "50", "51", "52", "53", "54", "55", "56", "57"

2012:

CAP BEAMS AND COLUMNS

The concrete pier structure supports seven girders with a continuous cap beam over three circular columns. In response to deterioration of the cap beam and columns, initially cited in Yellow Flag 1U10031, temporary repairs were performed in 2011 by the installation of steel columns under the midspan of both cap beam bays. Those at Pier 1 are surrounded by soil - it is unknown if they extend to the top of the original continuous strip footing - the columns cannot be shifted - the amount of load they may be supporting is unknown.

The CAP and COLUMNS of both piers contain similar deficiencies, but Pier 1 is in worse condition and warranted issuance of a YELLOW Flag - 1P120028 (Supersedes Yellow Flag 1T110018)

Pier 1 Cap Conditions:

- The top of the cap is in generally acceptable condition; however, previously installed protective coatings have cracked, lost bond, and curled from the top of the concrete retaining moisture.
- The sides of the cap have several areas of hollow concrete. The End face of the Pier 1 cap contains approximately 25% hollow surface. The Begin face has much less hollow area.
- The sides of the cap contain spalled areas
 - o on the End face - a long spall along the top edge from the left edge of Pedestal 5 to the left edge of Pedestal 6 with exposure of a main longitudinal bar, but minimal section loss at this time - photo 36 <12-6867>
 - o along bottom edges associated with the bottom face spalling, identified below
- The underside of the cap is in the worst condition with significant deterioration and spalling as follows:
 - o Between Column 1 and the Bay 1 Temp Steel Column, there is no spalling, but there is cracking and minor leaching with hollowness over less than 20% of the area - photo 37 <12-2856>.
 - o Between the Bay 1 Temp Steel Column and Column 2, the underside is spalled over 75 percent of the surface area, with the larger portion adjacent to the temp column. The spall is generally along the middle to rear edge of the bottom face. There are several exposed main horizontal steel reinforcing bars with an estimated 5-10 percent section loss - no debonding found - photos 38 <12-2834> & 39 <12-6891>.
 - o Between Column 2 and Bay 2 Temp Steel Column, the underside is spalled over approximately 50% of its area with concurrent spalling along the bottom several inches of both Begin and End faces. There are many exposed main horizontal steel reinforcing bars with 40 to 50 percent of the steel surface area exposed. The section loss ranges from 5 to 10 percent with no de-bonding found - photos 40 <12-2857> and 41 <12-6890>.
 - o Between the Bay 2 Temp Steel Column and Column 3, the underside is spalled over approximately 80% of its area, with concurrent spalling along the bottom

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few inches of both Begin and End faces. Exposed steel conditions are similar to the other portion of Bay 2 to the left of the temporary column, but not quite as severe - photo 42 <12-6923>.

Pier 1 Column Conditions:

- The End faces of all three columns and the outside faces of Columns 1 & 3 contain significant areas of hollow sounding concrete and extensive map cracking for the full height of the columns (photos 43 <12-2816>, 44 <12-6889> & 45 <12-6892>). It is estimated that these conditions affect 15-25% of the face of all three columns.
- There were a few spalls:
 - o Left face of Column 1 - near the top - up to 9 inches wide, 2 ft high, with one exposed rebar - photo 46 <12-6823>
 - o End face of Column 1 - near the top - less than 1 square foot with a stirrup and main bar slightly exposed - photo 46 <12-6823>
 - o End face of Column 2 - near its center vertically - up to 9 inches wide and 3 ft high - photo 43 <12-2816>.
 - o End face of Column 3 - near the top of the barrier - two areas of up to 1 square foot each with one exposed rebar - photo 47 <12-6888>.

The Pier 1 Cap Beam rates 3 and the Pier 1 Column rating is 3.

Pier 2 Cap Conditions:

- The begin and end faces of the cap beam exhibit areas of cracking and/or shallow spalling with small pockets of hollow sounding concrete - concentrated along the top Right half of the Begin face - photo 49 <12-5718>.
- There is a spall and exposed rebar to the Right of the Left Temporary steel column in Bay 1, Begin bottom edge - photo 50 <12-5727>. Similar condition in Bay 2 - photo 51 <12-5762>.
- The underside of Bay 1 is extensively cracked with rust staining. The concrete was hollow sounding over 50 percent of the area but, no loose concrete at this time. See photo 52 <12-5764>.
- Similarly, the underside of Bay 2 over 40 percent of the area was hollow sounding. See photo 53 <12-897>.

Pier 2 Column Conditions:

- the Begin faces of all three columns and the outside faces of Columns 1 & 3 contain significant areas of hollow sounding concrete and map cracking for the full height of the columns (photo 54 <12-5656>). The concrete was solid throughout except in areas where small diameter spalls are forming.
- there are a few spalls -
 - o Column 1 on the Begin Right face, near the top - a spall of up to 1 ft wide to an exposed rebar and tapering down the column about 4 feet - photo 55 <12-5757>.
 - o Column 2 on the top begin face, beneath the cap - an irregular shaped spall of up to 12 inches wide, 36 inches high and to an exposed rebar and a crack progressing down the face for half of the exposed height of the column (photo 56 <12-5717>),
 - o Column 3 on the end right face - multiple cracks with rust staining and scattered areas of hollowness over 20% of its area - photo 57 <12-5763>.

The Pier 2 Cap Beam rates 4 and the Pier 2 Column rating is 4.

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Note ID: 1P121033141000F - continued...

The temporary steel columns at both piers are in relatively good condition and would rate 5 or higher.

Sketches are provided with surface conditions for both piers.

Note ID: 1P1210331410010

Span 002 -- Utilities: Sign Structure -- Rated 4, Was 4

Referenced Photos: "58"
2012

The two remaining signs located on the outside of the Right Fascia Girder, Span 2, are bent in and are losing reflectivity. There is a build up of grime on the signs but, the signs remain visible to on-coming traffic. The rating is maintained ta 4.

Note ID: 1P1210331410012

Span 003 -- Utilities: Sign Structure -- Rated 8, Was 5

Referenced Photos:
2012:

There is no sign in Span 3 - no photo.

Note ID: 1P1210331410001

End Abut -- Abutment: Bearings, Bolts, Pads -- Rated 4, Was 4

Referenced Photos:
2012:

At the End Abutment, the Left anchor bolt on the G7 bearing is sheared off. All bearing components exhibit moderate corrosion (G1 bearing similar). Many of the anchor bolts for the remaining bearings are bent toward Pier 2. The remaining fixed bearings exhibit moderate corrosion with pack rust in the hinged portion. There is no indication of movement. No photo available.

Note ID: 1P1210331410002

End Abut -- Abutment: Erosion or Scour -- Rated 4, Was 4

Referenced Photos: "5"
2012:

The End Abutment block paving below Bay 1 is deteriorated and broken under the scupper downspout. The deteriorated blocks and settled area extends from the top down most the embankment length. Photo 889. The right side is similar, but less extensive. Otherwise erosion would rate 5.

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Abutments - Joint with
Deck - Begin - Overview
from above left
Approaches - Pavement
- Begin - Overview from
above left



Photo Number: 1

Photo Filename: 12-6810.JPG

Abutments - Joint with
Deck - Begin - across top
of surface from left edge
Approaches - Pavement
- Begin - across top of
surface from left edge



Photo Number: 2

Photo Filename: 12-2839.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Abutments - Joint with
Deck - End - Overview
from above right
Approaches - Pavement
- End - Overview from
above right



Abutments - Joint with
Deck - End - across top of
surface from left edge
Approaches - Pavement
- End - across top of
surface from left edge



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Abutments - Erosion -
End Left



Photo Number: 5

Photo Filename: 12-889.JPG

Approaches - Erosion -
Begin Right in front of
wingwall



Photo Number: 6

Photo Filename: 12-2847.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Approaches - Guide
Railing - End Left



Photo Number: 7

Photo Filename: 12-906.JPG

Deck Elements - Railing
- Span 3, Right, 1st post



Photo Number: 8

Photo Filename: 12-5704.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Deck Elements - Railing
- Span 3, Right, 4th post
(Span 2 Right 2nd post
similar)



Photo Number: 9

Photo Filename: 12-5703.JPG

Superstructure -
Structural Deck - Span 3,
Bay 1 near end



Photo Number: 10

Photo Filename: 12-887.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure -
Structural Deck - Span 1,
Bay 5 near Begin
Superstructure - Paint - -
Span 1 - Bay 5 near Begin



Photo Number: 11

Photo Filename: 12-6927.JPG

Superstructure -
Structural Deck - Span 2,
end third, Bays 4 & 5



Photo Number: 12

Photo Filename: 12-5726.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure -
Structural Deck - Span 2,
Bay 2 near End



Photo Number: 13

Photo Filename: 12-5731.JPG

Superstructure - Primary
Members - Span 1 - Bay
6, Panel 1, Intermediate
Stringer



Photo Number: 14

Photo Filename: 12-2810.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure - Primary
Members - Span 3 - Bay
1, Panel 4, Intermediate
Stringer

Superstructure - Paint - -
Span 3 - Bay 1, Panel 4



Photo Number: 15

Photo Filename: 12-887.JPG

Superstructure - Primary
Members - Span 3 - G1 at
End Abutment



Photo Number: 16

Photo Filename: 12-913.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure - Primary
Members - Span 3 - G1 at
End Abutment - bent
bearing
stiffener/diaphragm
connection plate



Photo Number: 17

Photo Filename: 12-916.JPG

Superstructure - Primary
Members - Span 2, G1



Photo Number: 18

Photo Filename: 12-5756a.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure - Primary
Members - Span 2,
G1-G6, from Right
Superstructure - Paint -
Span 2



Photo Number: 19

Photo Filename: 12-6893.JPG

Superstructure - Primary
Members - Bay 4 above
Pier 1 - Span 2 near side,
Span 1 far side.
Superstructure - Paint -
Spans 1 & 2 - Bay 4
Superstructure - Joints -
Spans 1 & 2 - Bay 4



Photo Number: 20

Photo Filename: 12-6856.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure - Primary
Members - Bay 4 above
Pier 2 - Span 2 near side,
Span 3 far side.

Superstructure - Paint -
Bay 4 above Pier 2 -
Spans 2 and 3



Photo Number: 21

Photo Filename: 12-5721.JPG

Superstructure - Paint -
G1 Right face, Span 2 & 3
over Pier 2

Superstructure - Joints -
G1 Right face, Span 2 & 3
over Pier 2

Pier - Bearings - G1,
Span 2 & 3 over Pier 2



Photo Number: 22

Photo Filename: 12-5738.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure - Paint -
G1 Left face, Span 2 & 3
over Pier 2

Superstructure - Joints -
Left fascia - Span 2 & 3
over Pier 2

Deck Elements -
Railings - overview Left
fascia - Span 2 & 3 over
Pier 2



Photo Number: 23

Photo Filename: 12-5749.JPG

Pier - Bearings, Bolts,
Pads - Pier 1 - G4, Right



Photo Number: 24

Photo Filename: 12-6862.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Bearings, Bolts,
Pads - Pier 1 - G7, Right



Photo Number: 25

Photo Filename: 12-6872.JPG

Pier - Bearings - G3
Right, Span 2 & 3 over
Pier 2



Photo Number: 26

Photo Filename: 12-5720.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Bearings - G1 Left,
Span 2 & 3 over Pier 2



Photo Number: 27

Photo Filename: 12-5752.JPG

Superstructure - Joints -
G2 Left face, Span 1 & 2
over Pier 1
Pier - Bearings - G2 Left
face, Span 1 & 2 over Pier
1



Photo Number: 28

Photo Filename: 12-6839.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Pedestals - Pier 1
- Ped 4 Left



Photo Number: 29

Photo Filename: 12-6849.JPG

Pier - Pedestals - Pier 1
- Peds 5 and 6 from end side
Pier - Top of Cap Beam -
Pier 1 - Bay 5 from end side
Pier - Cap Beam - Pier 1
- Right half from end side



Photo Number: 30

Photo Filename: 12-6868.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Pedestals - Pier 2
- Ped 1 Begin face



Photo Number: 31

Photo Filename: 12-5741.JPG

Pier - Pedestals - Pier 2
- Ped 2 - Begin Right



Photo Number: 32

Photo Filename: 12-5732.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Pedestals - Pier 2
- Ped 3 - Left Begin



Photo Number: 33

Photo Filename: 12-5733.JPG

Pier - Pedestals - Pier 2
- Ped 6 Begin face



Photo Number: 34

Photo Filename: 12-5716.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Top of Cap Beam -
Pier 1 - Bay 1



Photo Number: 35

Photo Filename: 12-6828.JPG

Pier - Cap Beam - Pier 1
- End Face from Right



Photo Number: 36

Photo Filename: 12-6867.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Cap Beam - Pier 1
- Begin face between Col
1 and Bay 1 Temp Steel
Column



Pier - Cap Beam - Pier 1
- underside between Bay
1 Temp Steel Column and
Column 2



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Cap Beam - Pier 1
- End Face - Left half



Pier - Cap Beam - Pier 1
- End face between Bay 2
Temp Steel Column and
Column 3



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier - Cap Beam - Pier 1
- End Face - Right half



Pier - Cap Beam - Pier 1
- Begin face between Bay
2 Temp Steel Column and
Column 3



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier 1 - Column 2 -
Begin Face



Pier 1 - Column 2 - End
Face



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier 1 - Pier Columns -
overview from End Left



Photo Number: 45

Photo Filename: 12-6892.JPG

Pier 1 - Column 1 - End
Left Face



Photo Number: 46

Photo Filename: 12-6823.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier 1 - Column 3 - End
Face



Photo Number: 47

Photo Filename: 12-6888.JPG

Pier - Top of Cap Beam -
Pier 2 - Bay 6, Begin edge



Photo Number: 48

Photo Filename: 12-5710.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier 2 - Cap Beam -
Begin face - Right half



Photo Number: 49

Photo Filename: 12-5718.JPG

Pier 2 - Cap Beam - Bay
1 - Begin face - right of
Left Temp Steel Column



Photo Number: 50

Photo Filename: 12-5727.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier 2 - Cap Beam - Bay
2 - Begin face - right of
Right Temp Steel Column



Photo Number: 51

Photo Filename: 12-5762.JPG

Pier 2 - Cap Beam - Bay
1 - Begin and bottom face



Photo Number: 52

Photo Filename: 12-5764.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier 2 - Cap Beam - Bay
2 - Right portion - End
and bottom face



Photo Number: 53

2012/10/13
Photo Filename: 12-897.JPG

Pier 2 - Pier Columns -
overview



Photo Number: 54

OCT 13 2012
Photo Filename: 12-5766.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier 2 - Column 1 -
Begin Face



Pier 2 - Column 2 -
Begin face closeup



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Pier 2 - Column 2 -
Begin face overview



Photo Number: 57

Photo Filename: 12-5763.JPG

Utilities - Signs - Span 2
Right



Photo Number: 58

Photo Filename: 12-5695.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure - Joints -
Pier 2 from left



Photo Number: 59

Photo Filename: 12-5744.JPG

Superstructure - Joints -
Pier 1 above from left



Photo Number: 60

Photo Filename: 12-6809.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Superstructure - Primary
Members - Span 1 - Bay
1, Panel 4, Intermediate
Stringer



Photo Number: 61

2012/11/04
Photo Filename: 12-2833.JPG

Deck Elements -
Railings - bridge rail post
support steel - Left Fascia
- Begin of Span 2 over
Pier
1 (Spans 1 & 3 similar,
but not as severe)



Photo Number: 62

NOV 4 2012
Photo Filename: 12-6822.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Sketch ID: 1P1210331410000

Sketch Filename: 12-BD244 Flag removal.wpd

Span 002 -- Superstructure: Structural Deck -- Rated 4, Was 4

Referenced Photos: "12", "13"

BD 244

NYS DOT BRIDGE INSPECTION REPORT

SHEET		OF	
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Flag Removal/Inactivation
Report

Carried:	87I 87I11082027	R/C - BIN:	1 / 1 - 1 0 3 3 1 4 1
Crossed:	ALBANY SHAKER RD	Insp. Date:	11/06/12
County:	ALBANY	Inspector:	Phil Pierce PE 066954

Flag Number:	1T110017
Type of Flag: (Select one)	RED Flag
	YELLOW Flag
	<input checked="" type="checkbox"/> SAFETY Flag

Flag is to be: (Select one)	<input checked="" type="checkbox"/> Removed
	Inactivated

Certification By:	Phil Pierce PE 066954
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Action Taken:	No additional loose concrete could be dislodged this inspection - previously moist concrete exposed during the 2011 inspection had hardened - no risk of falling concrete perceived for the next inspection cycle.
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Prepared By:	Phil Pierce PE 066954
Date:	11/06/12

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Sketch ID: 1P1210331410001



Sketch Filename: 12-BD186.wpd

General Sketch for Bridge

Referenced Photos:

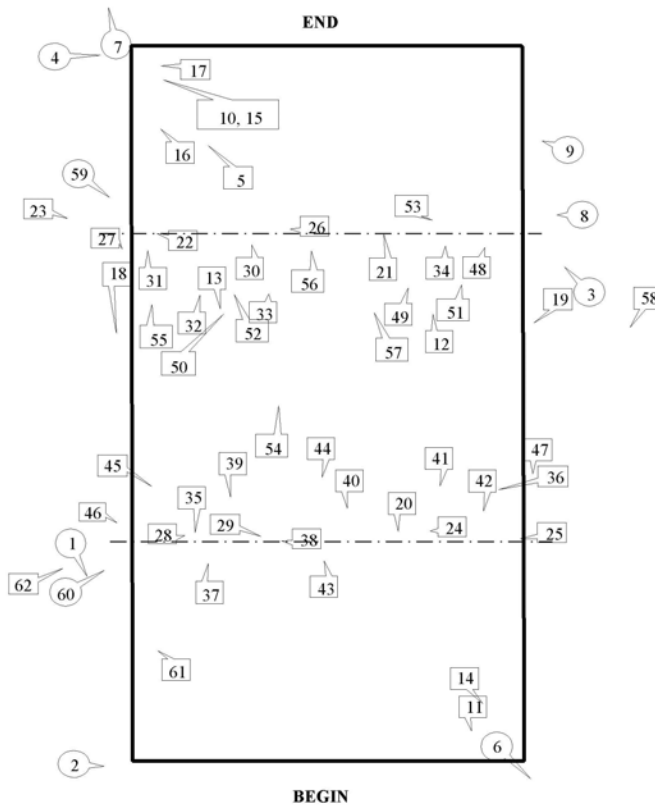
12Bd186-N1

NYS DEPT. OF TRANSPORTATION

R/C - BIN:	1/1 1033141	YEAR:	2012
FEATURE CARRIED:	87I 87I11082027		
FEATURE CROSSED:	ALB ANY SHAKER ROAD		
LEGEND:	PHOTO ABOVE DECK LEVEL 	PHOTO BELOW DECK LEVEL 	



NORTH

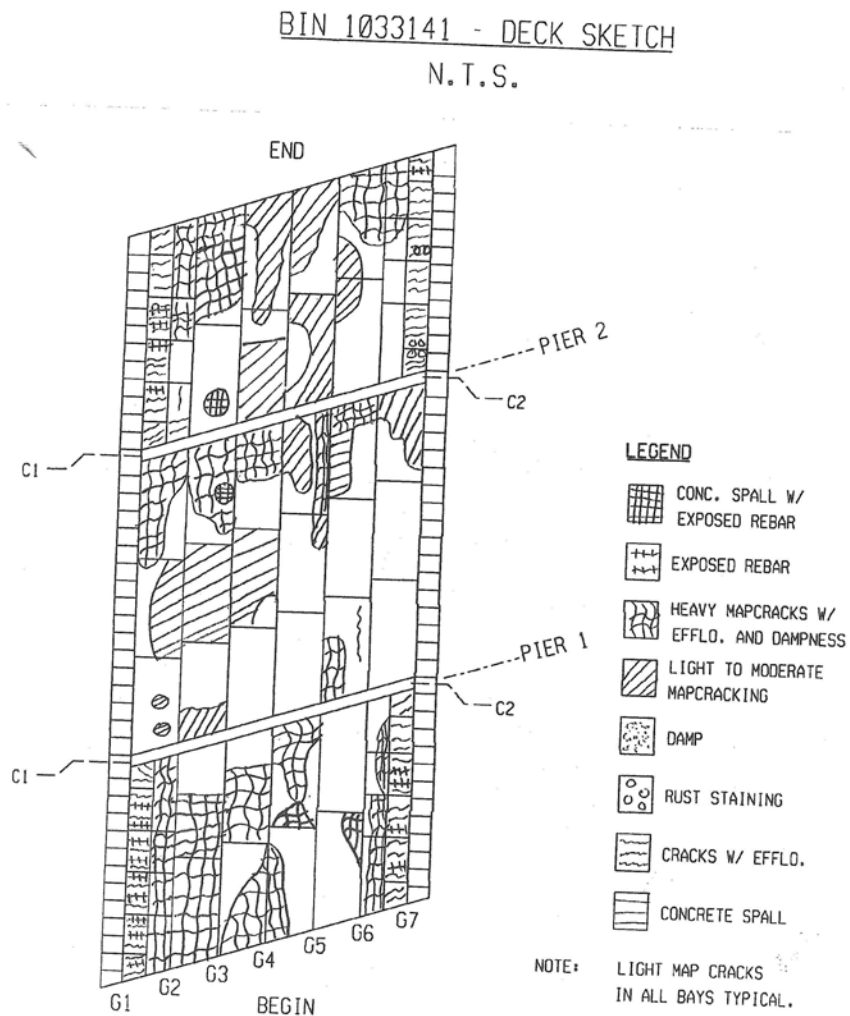


RC: 11 BIN: 1033141

Carried: 87I 87I11082027	Crossed: ALBANY SHAKER RD	CheckValue: 1,803,979,717
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Sketch Filename: 12SketchDeck.TIF

Referenced Photos: "11", "12", "13", "10"



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

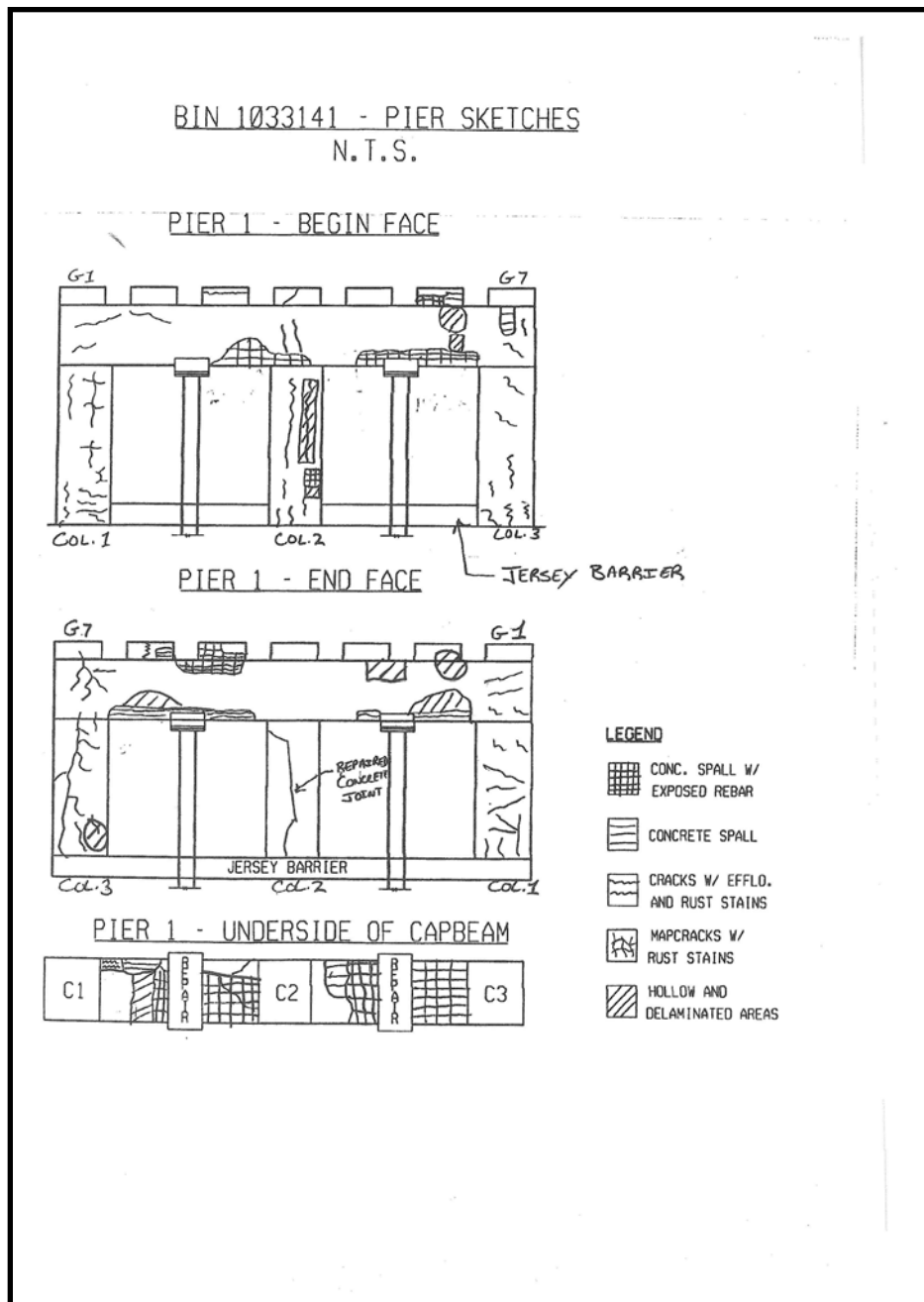
Sketch ID: 1P1210331410004

Sketch Filename: 12SketchPier1.TIF

Span 001 -- Pier: Cap Beam -- Rated 3, Was 3

Span 001 -- Pier: Pier Columns -- Rated 3, Was 3

Referenced Photos: "30", "36", "37", "38", "39", "40", "41", "42", "43", "44", "45", "46", "47"



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Sketch ID: 1P1210331410005

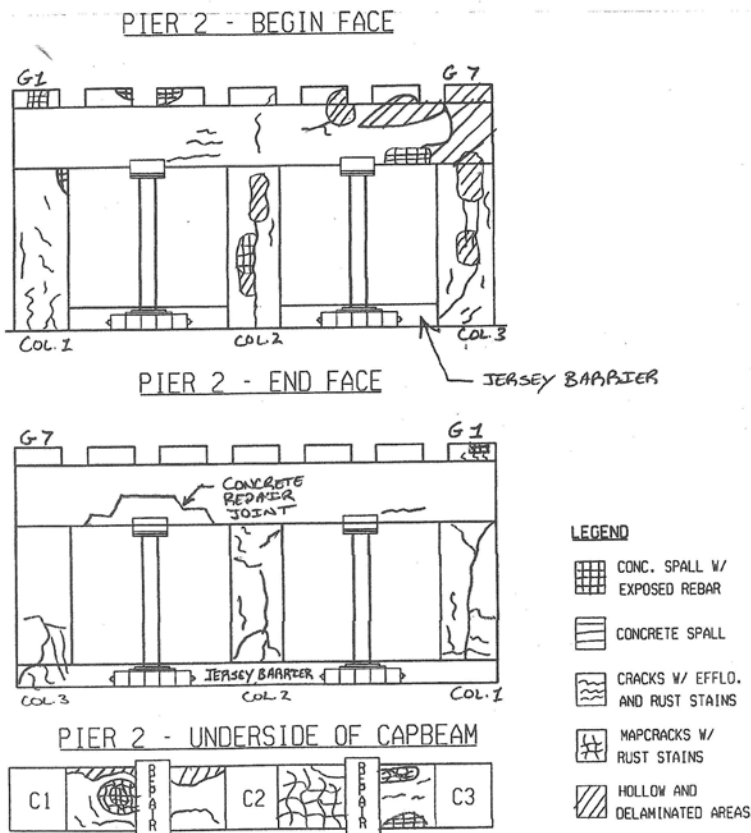
Sketch Filename: 12SketchPier2.TIF

Span 002 -- Pier: Cap Beam -- Rated 4, Was 4

Span 002 -- Pier: Pier Columns -- Rated 4, Was 4

Referenced Photos: "49", "50", "51", "52", "53", "54", "55", "56", "57"

BIN 1033141 - PIER SKETCHES N.T.S.



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Gen. Rec., Postings, Federal Ratings, etc.

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD CheckValue: 1,803,979,717

Overall Condition:

GENERAL RECOMMENDATION: 4

Computed Condition Rating: 3.953

Problems Requiring Action:

FURTHER INVESTIGATION IS NEEDED

Analytical review of deteriorated br. rail support system.

YELLOW Flag(s) Issued

POSTINGS:

Inspector Confirmed existing Posting data as correct.

Posted Vertical Clearance ON the bridge is: No Posting

Posted Vertical Clearance UNDER the bridge is: No Posting

No Load Restriction is posted on this bridge

Overloads Observed:

NO Overload Vehicles were observed on this bridge

FEDERAL RATINGS:

NBI Deck Condition: 4

NBI Superstruct Condition: 5

NBI Substruct Condition: 4

NBI Channel Condition: N

NBI Culvert Condition: N

Diving Inspection Needs:

Diving Inspection Required? No

Date of Last Diving Inspection: No Date

Inventory Problems:

Inventory Problems Exist? No

Miscellaneous:

Time Required to Inspect Bridge: 6 Hours

Lane Closure Needs: By Contract for 3 Hours

No Railroad Flagging Required

No Pedestrian Fence

No Snow Fence

The BIN Plate is in OK condition

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Gen. Rec., Postings, Federal Ratings, etc.

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Special Emphasis Inspection Required:

Non-Redundant/Fracture Critical Members - No
Pin and Hangers - No
Fatigue-Prone Welds - No
Non-Categorized Fatigue-Prone Details - No
Other (Specified in Text) - No

Special Emphasis Details:

No Special Emphasis Inspection Required.

General Notes To the Next Inspector:

2012 Access: walking, ext ladder, bucket truck with MPT along Albany Shaker Road (Right Lane closure with flaggers in each direction - no lane closure under the middle of Span 2). No traffic restriction on I87. Inspection of BINs 1033141 & 1033142 performed consecutively.

BIN plate is mounted to the begin right wingwall and Begin Left bridge rail post and are in good condition.

Improvements Observed:

2012 - No improvements observed.

2011 - Temporary steel columns placed under both capbeam bays at both piers. Debris at Top of cap beams has been removed. Asphalt patchwork at Pier 2 joint.
2010

1. Loose concrete was removed from both piers.
2. Pier 1, G1 pedestal repaired.

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Review Progress and Personnel Present at Inspection

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Inspection Submission Status:

Submitted to QC Engineer on: 12/14/2012
QC Submission Number: P0121101

QC Review Completed: 12/16/2012
QC Engineer: William J. Sabbag

Submitted to Liaison Engineer on: 12/17/2012
Liaison Submission Number: 01240

Liaison Review Completed: 1/4/2013
Liaison Engineer: ID: 51000042

Submitted for BIIS Processing on: 1/4/2013
BIIS Submission Number: .kp1

Current Status: Keypunched, Sent to BIIS
Check Value: 1,803,979,717

Personnel Present During Inspection:

Phil C. Pierce	- Team Leader
Nicholas Bennett	- Assistant Team Leader
John DiVirgilio	- WZTC Liaison
Wilford Maynard	- WZTC
Jack Schloss	- WZTC
Nick Yost	- Bucket Truck Operator

Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Prompt Interim Action Recommended: No

Inspector: Pierce, Phil C.
Flag Number: 1P120029

Date Discovered: 11/4/2012
Supersedes Flag Number: 1T110016

Bridge Description:

BIN: 1033141 Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Region: 1 - Albany County: 1 - Albany
Political Unit: 0187 - Town of COLONIE
Residency Code: - N/A
Primary Owner: 10 - State Department of Transportation
Secondary Owner: 99 - One Agency - Listed in first subfield
Primary Maintenance: 10 - State - Highway Maintenance
Secondary Maintenance: 99 - One Agency - Listed in first subfield
Year Built: 1959 Not Posted For Load

Number of Spans by Type:	Num	Type	Description
	003	- 109	- Steel - Rolled Beam, Multi-Girder

Bridge is wholly or partially owned or maintained by NYSDOT.

Description of Flagged Condition:

Pier 1; Item PIER CAP BEAM and COLUMNS; Rated 3; DO=NE

YELLOW FLAG 1P120029 (Supersedes Yellow Flag 1T110016)
* * * DETERIORATED PIER CAP BEAM AND COLUMNS * * *

The concrete pier structure supports seven girders with a continuous cap beam over three circular columns. In response to deterioration of the cap beam and columns, initially cited in Yellow Flag 1U10031, temporary repairs were performed in 2011 by the installation of steel columns under the midspan of both cap beam bays. Those at Pier 1 are surrounded by soil - it is unknown if they extend to the top of the original continuous strip footing - the columns cannot be shifted - the amount of load they may be supporting is unknown.

The CAP and COLUMNS contain many deficiencies as summarized below:

Pier 1 Cap Conditions:

- The top of the cap is in generally acceptable condition; however, previously installed protective coatings have cracked, lost bond, and curled from the top of the concrete retaining moisture.
- The sides of the cap have several areas of hollow concrete. The End face of the Pier 1 cap contains approximately 25% hollow surface. The Begin face has much less hollow area.
- The sides of the cap contain spalled areas
 - o on the End face - a long spall along the top edge from the left edge of Pedestal 5 to the left edge of Pedestal 6 with exposure of a main longitudinal bar, but minimal section loss at this time - photo 12-6867
 - o along bottom edges associated with the bottom face spalling, identified below
- The underside of the cap is in the worst condition with significant deterioration and spalling as follows:
 - o Between Column 1 and the Bay 1 Temp Steel Column, there is no spalling, but there is cracking and minor leaching with hollowness over less than 20% of the area - photo 12-2856,

Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

- o Between the Bay 1 Temp Steel Column and Column 2, the underside is spalled over 75 percent of the surface area, with the larger portion adjacent to the temp column. The spall is generally along the middle to rear edge of the bottom face. There are several exposed main horizontal steel reinforcing bars with an estimated 5-10 percent section loss - no debonding found - photo 12-2834 & 6891,
- o Between Column 2 and Bay 2 Temp Steel Column, the underside is spalled over approximately 50% of its area with concurrent spalling along the bottom several inches of both Begin and End faces. There are many exposed main horizontal steel reinforcing bars with 40 to 50 percent of the steel surface area exposed. The section loss ranges from 5 to 10 percent with no de-bonding found - photos 12-2857 and 12-6890.
- o Between the Bay 2 Temp Steel Column and Column 3, the underside is spalled over approximately 80% of its area, with concurrent spalling along the bottom few inches of both Begin and End faces. Exposed steel conditions are similar to the other portion of Bay 2 to the left of the temporary column, but not quite as severe - photo 6923.

Pier 1 Column Conditions:

- The End faces of all three columns and the outside faces of Columns 1 & 3 contain significant areas of hollow sounding concrete and extensive map cracking for the full height of the columns (photos 12-2816, 6889 & 6892). It is estimated that these conditions affect 15-25% of the face of all three columns.
- There were a few spalls:
 - o Left face of Column 1 - near the top - up to 9 inches wide, 2 ft high, with one exposed rebar - photo 6823
 - o End face of Column 1 - near the top - less than 1 square foot with a stirrup and main bar slightly exposed - photo 12-6823
 - o End face of Column 2 - near its center vertically - up to 9 inches wide and 3 ft high - photo 12-2816.
 - o End face of Column 3 - near the top of the barrier - two areas of up to 1 square foot each with one exposed rebar - photo 12-6888.

Significance:

Comparison of description and photos from the past inspection to this one indicates that additional spalling has developed at the bottom of the cap. Further, some additional surface cracking of the columns appears to have occurred, along with development of the spalled area cited above. However, there does not appear to be sufficient further deterioration to warrant other than reissuance of a Yellow Flag to force continued annual evaluation of conditions.

14 Photos/Sketches Attached

Verbal Notifications: (For RED Flags and Safety Flags with PIA only)

To: _____ of Regional Office on _____ at _____

Signature: (a signed copy of this report will be placed in the BIN folder)

Flagged Bridge Report Completed By: Pierce, Phil C. on 11/8/2012

Flagged Bridge Report Signed By: _____ on _____
Pierce, Phil C.

(This PDF Report Created: 1/4/2013 3:44:17 PM)

Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2816.JPG - Attached to Yellow Flag 1P120029

Column 2 Begin Face



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2834.JPG - Attached to Yellow Flag 1P120029

Cap Bm Bay 1 to right of steel col



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2856.JPG - Attached to Yellow Flag 1P120029

Begin face Bay 1 - left portion



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2857.JPG - Attached to Yellow Flag 1P120029

Begin face Bay 2 left portion



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6823.JPG - Attached to Yellow Flag 1P120029

Left face Pier 1



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6834.JPG - Attached to Yellow Flag 1P120029

End face, Bay 1 Left portion



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6867.JPG - Attached to Yellow Flag 1P120029

Overview - End face from Right



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6888.JPG - Attached to Yellow Flag 1P120029

End face Column 3



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6889.JPG - Attached to Yellow Flag 1P120029

End face, Column 2



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6890.JPG - Attached to Yellow Flag 1P120029

End face Bay 2



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6891.JPG - Attached to Yellow Flag 1P120029

End face Bay 1



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6892.JPG - Attached to Yellow Flag 1P120029

Overview - End face from Left



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6923.JPG - Attached to Yellow Flag 1P120029

Begin face Bay 2 Right portion



Discovery Date: 11/4/2012

RC: 11 BIN: 1033141

Yellow Flag 1P120029 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Pier1.JPG - Attached to Yellow Flag 1P120029

Standard Photo



Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Inspection Access Requirements

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Equipment Required for Inspection

Access Requirement Changes WERE Noted During This Inspection.
This Listing is from the Inspection.

ACCESS CATEGORIES FOR ENTIRE BRIDGE

Required: Walking, Lane Closure, Shadow Vehicle

ACCESS CATEGORIES FOR SPAN 1

Required: Walking, Step Ladder, Extension Ladder, Lane Closure

Required: Shadow Vehicle

ACCESS CATEGORIES FOR SPAN 2

Required: Walking, Small Lift, Lane Closure, Shadow Vehicle

ACCESS CATEGORIES FOR SPAN 3

Required: Walking, Step Ladder, Extension Ladder, Lane Closure

Required: Shadow Vehicle

Inspection Date: 11/4/2012

RC: 11 BIN: 1033141

Culvert Measurements

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,979,717

Culvert Measurements

NO CULVERT DATA FOR BIN 1033141

Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

1033141H.JPG



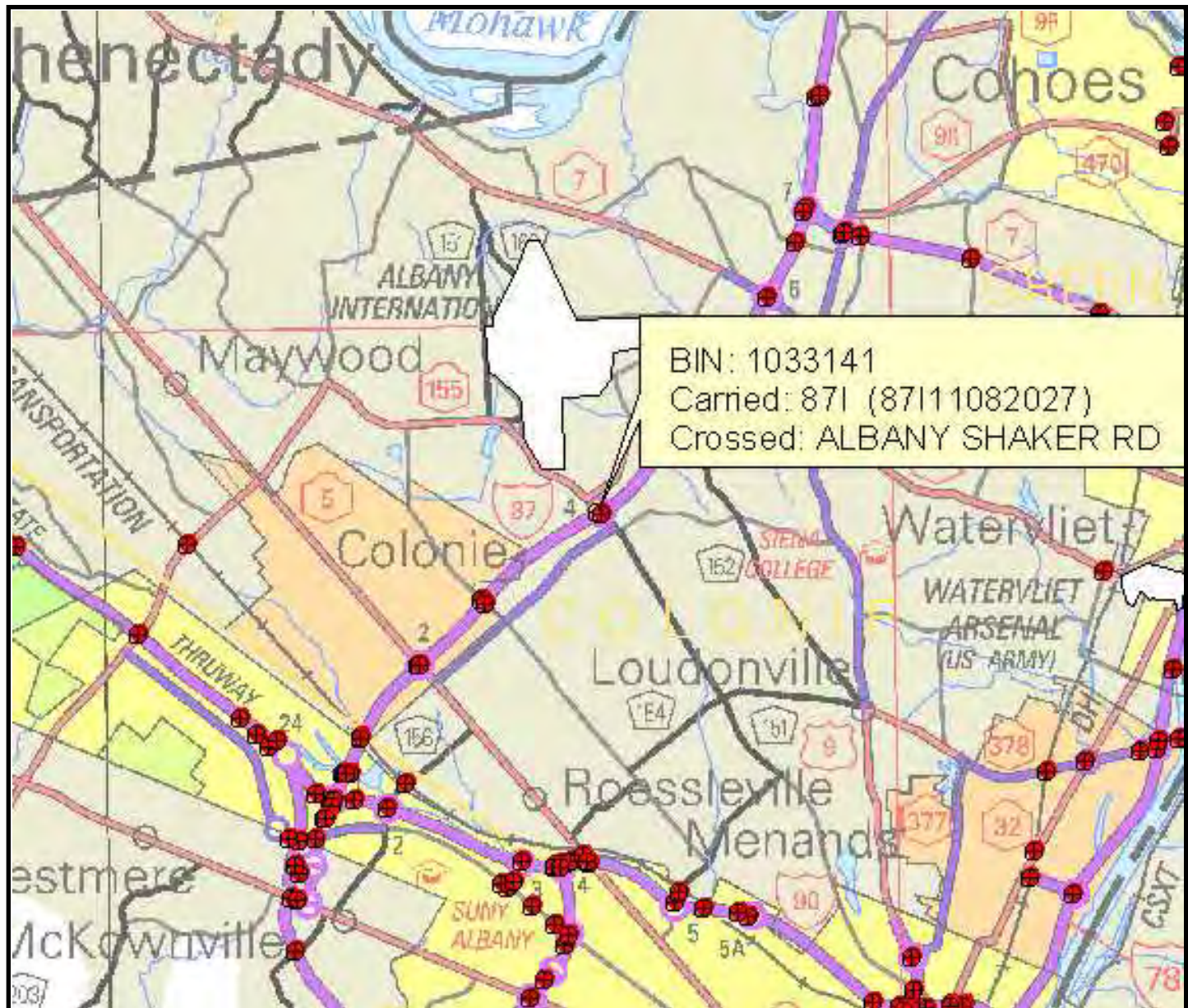
Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

1033141_LOCATION_MAP.JPG



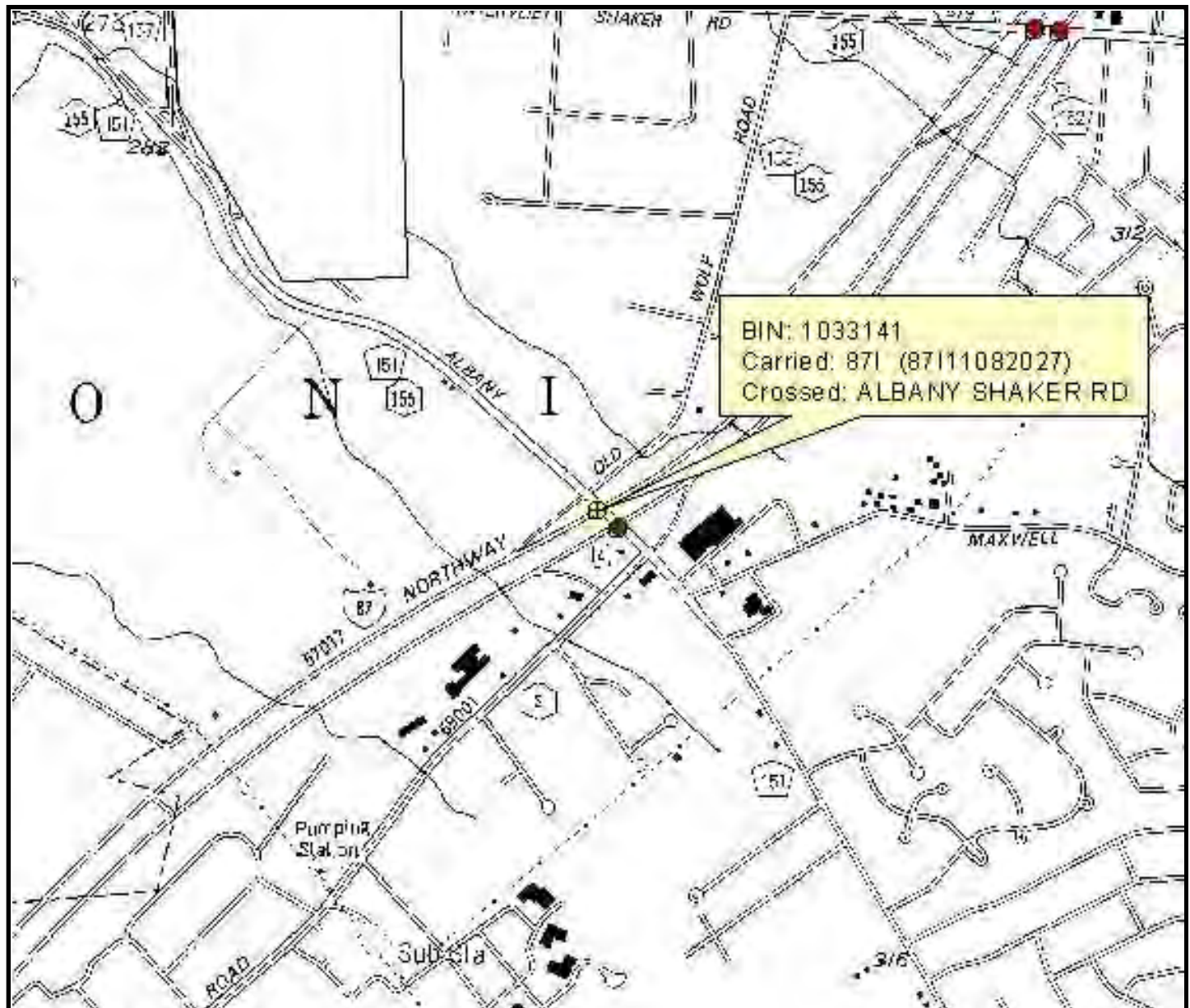
Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

1033141_QUAD_MAP.JPG



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

AbutmentBegin.jpg



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

AbutmentEnd.JPG



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

ApproachBegin.jpg



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

ApproachEnd.jpg



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

ElevationRight.jpg



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

FeatureCrossedLeft.jpg



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

FeatureCrossedRight.jpg



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

FramingSpan2.jpg



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

FramingSpan3.JPG



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

Pier1.JPG



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

Pier2.jpg



Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

PWK.jpg

BIN: 1-03314-1

OVER: I-87 S. B.

UNDER: ALBANY SHAKER ROAD

LENGTH: 160 FT.

WIDTH: 42 FT.

YR BLT: 1959

3 SPANS

Standard Photos

RC: 11 BIN: 1033141

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

TopOfDeck.JPG



BIN 1033142

Carried: I-87 87I11082027

Crossed: Albany-Shaker Road

Inspection Date: 11/4/2012**RC: 11 BIN: 1033142****Bridge Ratings****Carried: 87I 87I11082027****Crossed: ALBANY SHAKER RD****CheckValue: 1,803,927,581**

Inspection Agency: 13 - Consultant Type of Inspection: 1 - BIENNIAL
GTMS: 302 -- Steel - Stringer/Multi-Beam or Girder
POSTINGS: See Gen Rec Page 1 for Postings at time of inspection.
Further Investigation Needed: Analytical review of deteriorated br. rail support system.
State Highway Number: 57-17 Milepoint: 161.05 AADT/Yr: 22403 / 1998
Orientation: 2 - Northeast Political Unit: 0187 - Town of COLONIE Year Built: 1959
Total Spans: 3 Ramp Bridge Attached To Span: NA BIN: NA
General Recommendation: 4 Computed Condition Rating: 3.828

Abutment Ratings:**Beg Abut****End Abut**

Joint with Deck	5	5
Bearings, Bolts, Pads	5	5
Seats and Pedestals	4	5
Backwall	4	5
Stem (Breastwall)	8	8
Erosion or Scour	5	4
Footings	9	6
Piles	9	9
Recommendation	5	5

Wingwall Ratings:**Beg Abut****End Abut**

Walls	6	5
Footings	9	9
Erosion or Scour	6	6
Piles	9	9

Channel Ratings:**Channel**

Stream Alignment	8
Erosion and Scour	8
Waterway Opening	8
Bank Protection	8

Approach Ratings:**Approaches**

Drainage	7
Embankment	6
Settlement	6
Erosion	5
Pavement	5
Guide Railing	5

Number of Flags Issued:

RED: 1 Yellow: 2 Safety: 1

Vulnerability Reviews Recommended: 1=Yes, 2=No, 3=NA, X=NotActive

Hydraulic: 3	Overload: X	Steel: 2
Collision: 2	Concrete: X	Seismic: X

Inspector's Signature:**CheckValue: 1,803,927,581****Date: 11/4/2012****Phil C. Pierce, PE () (Inspector ID:1120096)**Signed copy of this inspection report is available
in the appropriate NYSDOT Regional Office**Reviewed By:****Date: 12/16/2012****William J. Sabbag, PE () (QC ID:1120078)**Signed copy of this inspection report is available
in the appropriate NYSDOT Regional Office

Inspection Date: 11/4/2012**RC: 11 BIN: 1033142****Span Ratings****Carried: 87I 87I11082027****Crossed: ALBANY SHAKER RD****CheckValue: 1,803,927,581****Deck Element Ratings:**

	001	002	003
Wearing Surface	5	5	5
Curbs	5	5	5
Sidewalks, Fascias	5	5	5
Railings, Parapets	3	3	3
Scuppers	6	8	3
Gratings	8	8	8
Median	8	8	8
Mono Deck Surface	8	8	8

Superstructure Ratings:

	001	002	003
Structural Deck	3	4	3
Primary Members	4	4	4
Secondary Members	5	5	5
Paint	1	2	2
Joints	4	4	8
Recommendation	4	4	4

Pier Ratings:

	001	002	003
Bearings, Bolts, Pads	4	4	8
Pedestals	4	2	8
Top of Cap or Beam	5	5	8
Stem Solid Pier	8	8	8
Cap Beam	3	3	8
Pier Columns	3	3	8
Footings	9	9	8
Erosion or Scour	7	7	8
Piles	9	9	8
Recommendation	3	3	8

Utility Ratings:

	001	002	003
Lighting	8	8	8
Sign Structure	4	8	8
Utilities and Support	8	8	8

Field Notes:

Field Date	Arrival	Departure	Temp (C)	Temp (F)	Weather Conditions
10/13/2012	7:30:00 AM	10:30:00 AM		60	clear
11/4/2012	10:30:00 AM	12:30:00 PM		50	clear

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Notes

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Note ID: 1P121033142000A

Beg Abut -- Abutment: Seats and Pedestals -- Rated 4, Was 5

Referenced Photos: "1", "2"

2012:

The front right corner of Pedestal 2 was found to be cracked during this inspection and loose concrete was knocked off exposing a horizontal stirrup along the front face. The spalling is across nearly the full width of the pedestal, max longitudinal distance parallel to the beam of about 8 inches, and up to about 15 inches high. The spalling did not reach the corner of the bearing base plate.

A similar, albeit much less extensive, spall exists at the front right corner of Pedestal 3. The spalling is has a longitudinal distance parallel to the beam of about 8 inches and transverse distance of about 8 inches, and up to about 6 inches high. The spalling did not reach the corner of the bearing base plate.

Note ID: 1P121033142000B

Beg Abut -- Abutment: Backwall -- Rated 4, Was 5

Referenced Photos: "4", "5"

2012:

While the bulk of the backwall of the Begin Abutment is in good condition, it is noted that a vertical crack exists generally behind G4 with localized minor spalling along it. Also, there are two spalls - an existing one generally behind G3, above the left corner of the pedestal which has exposed one vertical rebar - total area of about 1 square foot. A second spall was created upon removal of hollow surface material in a similar location behind G4 - somewhat larger, but with an exposed rebar.

Note ID: 1P1210331420001

Beg Abut -- Abutment: Erosion or Scour -- Rated 5, Was 5

End Abut -- Abutment: Erosion or Scour -- Rated 4, Was 4

Referenced Photos: "6", "7"

2012:

At the Begin Abutment, water draining through both Span 1 scupper downspouts has caused minor erosion of material beneath the concrete block slope protection - Photo 6. The abutment footing is not exposed at either location. The Right side is slightly worse. The remainder of the block pavers are in generally good condition. Rate this condition 5 at this time.

At the End Abutment, water draining through the Span 3 scupper downspout at the End Left has caused erosion of the slope and caving in of the concrete block slope protection - Photo 1850. The undermining of the block at the top of the slope in front of Pedestal 1 has exposed a portion of the concrete footing, which is in good condition. The remainder of the block pavers are in fair condition with areas of block displacement with the worst occurring on the slope in front of Pedestal 7. The footing for the remainder of the end abutment is not exposed and would rate 9.

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Notes

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Note ID: 1P121033142000C

Span 001 -- Deck Elements: Railings, Parapets -- Rated 3, Was 4

Span 002 -- Deck Elements: Railings, Parapets -- Rated 3, Was 3

Span 003 -- Deck Elements: Railings, Parapets -- Rated 3, Was 4

Referenced Photos: "8", "9", "10", "55", "56", "11"

2012:

In all 3 spans the bridge rail post anchorages are bolted through a steel plate support structure. There is a build-up of pack rust under the rail post base plates. This pack rust, potentially in combination with other forces, is causing failure of the rear anchor bolt at seemingly random post locations. The nut and shank break off of the bolt at the top of the base plate. There are a total of 3 anchor bolts per post; therefore, loss of one bolt is a significant effect on the capacity of the anchorage system. The bolts remain in place only by rust and friction. At those locations with broken bolts observed during this inspection, the nut and shank portion was missing - potentially having fallen off of the side to ground/roadway below, or onto the shoulder of the bridge deck. Hence, there is a significant risk of bolt pieces falling from Span 2 onto traffic below.

The following locations were found to have the outboard bolt broken and missing:

Span 1 - Left side - 5th post - Photo 8 <12-6944>; Right side - 5th post - Photo 9 <12-6988>

Span 2 - Right side - the last two posts. Left side - last post and 3rd from last - Photo 10 <12-5667>.

Span 3 - Right side - the 4th post - Photo 11 <12-5632>.

Only the Span 2 location is flagged (Safety Flag 1P120027) due to the broken bolts on consecutive posts and potential for bolts to drop onto live traffic.

Additionally - the bridge rail has been retrofitted in the past with a pair of box beams in front of the original 2 rail system. The extra box beams are anchored to the posts with bolts and plates on the rear face of the post. In some instances, the plates have become loose and rotated becoming partially or fully ineffective in anchoring the box beam. The following locations were noted:

Span 2, Left side, 3rd post from end - loose plate - Photo 10 <12-5667>.

It is noted that missing/broken rear bolts have been replaced at various locations, to address the previous safety flag.

Another issue - the bridge rail system is supported by metalwork that includes short metal posts atop the fascia girder flanges that are badly corroded. The overall supporting network is comprised to some extent, yet it should be examined more analytically to determine the actual affect - "Further Investigation" is indicated in this report. Photo 55 <12-5623> provides an overview of rear supporting structure for bridge rail posts - Right side at Pier 2 looking toward end. Photo 56 <12-5671> provides a closer view of deteriorated metal support and concrete fill - Left side at the end of Span 2.

Condition rating lowered to 3 for Span 2 due to the flaggable condition as well as the poor condition of the rail support steel work. Condition rating also lowered to 3 for Spans 1 & 3 due to the poor condition of the rail support steel work.

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Notes

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Note ID: 1P1210331420004

Span 001 -- Superstructure: Structural Deck -- Rated 3, Was 3

Span 002 -- Superstructure: Structural Deck -- Rated 4, Was 4

Span 003 -- Superstructure: Structural Deck -- Rated 3, Was 3

Referenced Photos: "12", "15", "13", "14"

2012:

In Spans 1 and 3 where steel grating was replaced with concrete, the concrete deck in Bays 1 and 6 exhibit widespread cracking and deck leakage, as evident by the rust and efflorescence staining with stalactites. Several of the horizontal reinforcing bars are partially exposed with minor section loss. The concrete is hollow sounding at many locations; rates 3. See Photo 12 <12-7004> - Span 1, Bay 1 at begin; Photo 13 <12-1878> - Span 3, Bay 1 at end.

The remaining bays exhibit widespread map cracking with water and light efflorescence staining; would rate 4. See Photo 14 <12- 1881> - middle of underside - Span 3.

In Span 2, there is widespread mapcracking with water staining and areas of light efflorescence staining; rates 4. See Photo 15 <12-5690> - overall from end.

Please refer to the Underside of Deck sketches for additional information.

Note ID: 1P1210331420005

Span 001 -- Superstructure: Primary Members -- Rated 4, Was 4

Span 002 -- Superstructure: Primary Members -- Rated 4, Was 6

Span 003 -- Superstructure: Primary Members -- Rated 4, Was 5

Referenced Photos: "12", "17", "13", "16"

2012:

In Spans 1 & 3, the stringers in Bays 1 and 6 that previously supported the open steel grating exhibit moderate corrosion and steel delamination. The worst occurs in Span 1, Bay 1, Panel 1 where the flange thickness has been reduced to 5/16" (nominal flange thickness is 7/16") or 30 percent section loss. The web exhibits steel delamination as well with 5 to 10 percent section loss; rating lowered to 4. See Photo 13 <12-1878> - Span 3, Stringer 2, Bay 1 adjacent to the End Abutment - Span 1 similar - Photo 12 <12-7004>.

The floorbeams that support the stringers are in fair to good condition and would rate 5 or 6.

The interior girders would rate 5 due to corrosion at their ends beneath the leaking deck joints. Span 3, Girder 3 at Begin - Photo 16 <12-5649> as example.

The exterior girders (worst on the Left side along G1) are developing section loss from corrosion primarily along the outside flanges - bottom flange along most of the span - top flanges for shorter distances from each end joint. Span 2, Girder 1, left at end - Photo 17 <12-5677>.

Note ID: 1P121033142000D

Span 001 -- Superstructure: Paint -- Rated 1, Was 1

Span 002 -- Superstructure: Paint -- Rated 2, Was 4

Span 003 -- Superstructure: Paint -- Rated 2, Was 2

Referenced Photos: "12", "23", "16", "17", "13", "14"

2012:

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Notes

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Note ID: 1P121033142000D - continued

The stringers and floorbeams that supported the previous steel grating in Bays 1 and 6 of Spans 1 and 3 exhibit widespread paint failure (80 percent in Span 1 and 60-70% in Span 3) that has lead to section loss of these steel members; rating lowered to 1 in Span 1 and 2 in Span 3. See Photo 12 in Span 1 and Photo 13 in Span 3.

All stringers have significant loss of paint protection and the start of corrosion and section loss at their ends at the piers beneath the leaking joints. This condition warrants a paint condition rating of 2. See Photos 16 and 23.

The remaining steel members exhibit peeling paint in the outside bays and along the outside fascia beams. There is pinpoint corrosion along many portions of the top and bottom flanges of the interior beams; would rate 4. See Photo 14 as an example.

Note ID: 1P121033142000F

Span 001 -- Superstructure: Joints -- Rated 4, Was 5

Span 002 -- Superstructure: Joints -- Rated 4, Was 4

Referenced Photos: "18", "19", "20", "21"

2012:

Above Pier 1, the asphalt adjacent to the joint seal is cracked and beginning to break apart, especially in the Right lane. The rating is lowered to 4 because there was evidence of active leaking below onto the pier. See Photos 18 & 19.

Above Pier 2, the the asphalt adjacent to the joint seal is beginning to crack and become ravelled. The underside of joint in Bays 4 and 5 may be leaking as evident by the broken off pieces of the concrete header. See Photos 20 and 21.

Note ID: 1P1210331420006

Span 001 -- Pier: Bearings, Bolts, Pads -- Rated 4, Was 4

Span 002 -- Pier: Bearings, Bolts, Pads -- Rated 4, Was 4

Referenced Photos: "22", "23", "24", "25"

2012:

At Piers 1 and 2, most of the expansion bearings are over expanded - no evidence of movement was observed. All bearings exhibit heavy corrosion on all surfaces with pack rust, dirt, and debris on the hinged portions that inhibit movement. The anchor bolts on all bearings exhibit moderate to heavy corrosion with the worst occurring on the outside of the fascia girders. The anchor bolt nuts at these locations exhibit 80 to 90 percent section loss.

Note ID: 1P1210331420007

Span 001 -- Pier: Pedestals -- Rated 4, Was 4

Span 002 -- Pier: Pedestals -- Rated 2, Was 2

Referenced Photos: "26", "27", "28", "29", "30", "31", "32", "33", "34"

2012:

At Pier 1, most pedestals contain areas of hollow sounding concrete and some spalls, especially on the end face. Other specific deterioration includes:

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Notes

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Note ID: 1P1210331420007 - continued

Pedestal ("P") 1 - Begin face contains a small spall less than 1 sq ft; Left face mostly hollow sounding, but not spalled - Photo 26 <12-6947>;
P2 - end right face hollow
P3 - most of the end face hollow
P4 - end face right is hollow with a small spall
P6 - left face from begin has a corner spall exposing a horizontal stirrup - Photo 27 <12-6968>
P7 - begin and right face is hollow sounding

Rate Pier 1 pedestals 4.

At Pier 2, all pedestals contain many areas of hollow sounding concrete, especially on the begin face - Photos 28 <12-5651> & 29 <12-5655>. Other specific deterioration includes:

Pedestal 1 - End face 26" long x 12" high x 2" deep spall with exposed rebar - Photo 30<12-5660> & cracking of left edge - Photo 31 <12-5661>,
P2 - cracking on Left Rear corner,
P4 - small spall on Rear face,
P5 - Left side - cracking and small spalling - Photo 32 <12-5643>,
P6 - Begin and Left face: cracking with hollow sounding concrete and rust staining - Photo 33 <12-5634>.

G7 Pedestal - Yellow Flag 1P120026 issued for deteriorated & cracked pedestal. The Pedestal for G7 (Right Fascia) has a 3/8" wide crack on the Right side emanating from under the Span 3 bearing masonry plate. This crack extends down the Right face 2 ft to a hairline crack into a spall of soft crumbling concrete. The crack is also visible emanating from the Left side of the Span 3 bearing and extends down the End Left corner 16" terminating at the top of cap beam. There is minor spalling and cracking on both Left and End faces at the rear corner. Additionally, the Left corner of the Begin face is spalled - 19" along the begin face x 14" high x 6" max depth with soft, cracking, and hollow sounding concrete and a rebar slightly exposed - Photos 32 <12-5634> and 34 <12-5619>.

Rate Pedestal 7 as 2. Other Pier 2 pedestals would rate 4.

BUT - follow-up communication with the Region clarified that the flag color must remain Red. Accordingly, Red Flag 1P120031 was prepared as a substitute for the Yellow Flag 1P120026, which is removed herein.

Note ID: 1P1210331420010

Span 001 -- Pier: Cap Beam -- Rated 3, Was 3
Span 001 -- Pier: Pier Columns -- Rated 3, Was 3
Span 002 -- Pier: Cap Beam -- Rated 3, Was 4
Span 002 -- Pier: Pier Columns -- Rated 3, Was 3

Referenced Photos: "35", "36", "37", "38", "39", "40", "48", "49", "50", "51", "41", "42", "43", "44", "45", "46", "47", "52", "53", "54"

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Notes

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Note ID: 1P1210331420010 - continued

2012:

PIER CAP AND COLUMN NOTES

The concrete pier structure supports seven girders with a continuous cap beam over three circular columns. In response to deterioration of the cap beam and columns, initially cited in Yellow Flag 1U10031, temporary repairs were performed in 2011 by the installation of steel columns under the midspan of both cap beam bays. Those at Pier 1 are surrounded by soil - it is unknown if they extend to the top of the original continuous strip footing - the columns cannot be shifted - the amount of load they may be supporting is unknown. Those at Pier 2 were placed atop timber cribbing and can be displaced and are not supporting significant, if any, load at this time.

The CAPs and COLUMNS of both piers contain similar deficiencies, but the cap of Pier 1 is in worse condition.

Pier 1 Cap Conditions:

The top of the cap is in generally acceptable condition - previously installed protective coatings have cracked, lost bond, and curled from the top of the concrete retaining moisture.

- The sides of the cap have extensive areas of hollow concrete. The End face of the Pier 1 cap contains approximately 50% hollow surface. The Begin face has much less hollow area.

- The sides of the cap contain a spalled area on the Begin face - about 1 square foot at mid-height in Bay 2 to the right of the temporary steel column - Photo 35 <12-2867>

- The underside of the cap is in the worst condition with significant deterioration and spalling as follows:

- o Between Column 1 and the Bay 1 Temp Steel Column, there is no spalling, but there is cracking and minor leaching with hollowness over less than 20% of the area - Photo 36 <12-2870>.

- o Between the Bay 1 Temp Steel Column and Column 2, the underside is spalled over 40 percent of the surface area, with the larger portion adjacent to the temp column. The spall is generally along the middle of the bottom face. There are four exposed main horizontal steel reinforcing bars with an estimated 5-10 percent section loss. Several stirrups are also exposed with minor section loss

- Photo 37 <12-2869>.

- o Between Column 2 and Bay 2 Temp Steel Column, the underside is spalled over approximately 50% of its area with concurrent spalling along the bottom several inches of the End face. There are many exposed main horizontal steel reinforcing bars with 40 to 50 percent of the steel surface area exposed. The section loss ranges from 0 to 10 percent with de-bonding found of only one bar - Photos 38 <12-6972> and 39 <12-2868>.

- o Between the Bay 2 Temp Steel Column and Column 3, the underside is spalled over approximately 40% of its area, mostly adjacent to the temp column, with concurrent spalling along the bottom few inches of the End face. Exposed steel conditions are similar to the other portion of Bay 2 to the left of the temporary column, but not quite as severe - Photo 40 <12- 6971>.

Pier 1 Column Conditions:

- The End faces of all three columns and the outside faces of Columns 1 & 3 contain significant areas of hollow sounding concrete and extensive map cracking for the full height of the columns (Photos 48 <12-2895>, 49 <12-7008>, 50 <12-6991> & 51 <12-

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Notes

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Note ID: 1P1210331420010 - continued...

6990>). It is estimated that these conditions affect 60-75% of the face of Columns 1 and 3 and 20-30% of the face of Column 2.

- There were no spalls on the faces of the columns at the time of this inspection.

The Pier 1 Cap Beam rates 3 and the Column rating is 3. The temporary steel columns and timber supports are in relatively good condition and would rate 5 or higher.

Pier 2 Cap Conditions:

- the top of the caps are in generally acceptable condition - previously installed protective coatings have cracked, lost bond, and curled from the top of the concrete retaining moisture.

- the sides of the caps have extensive areas of hollow concrete with some spalling. The Begin face of the Pier 2 cap contains approximately 50% hollow surface (Photos 41 <12-5651> & 42 <12-5655>). Both Left and Right faces are nearly all hollow sounding (Photos 43 <12-5660> and 44 <12-5620>). The End face has much less hollow area.

- The sides of the cap contain some spalling - the begin and end faces in Bay 1 contain spalling on the bottom corner edges with an exposed primary rebar - minor corrosion (Photos 45 <12-5679> and 46 <12-1876>).

- The underside of the cap is cracked, hollow sounding, and leaching efflorescence - Photos 46 & 47 <12-1873>.

Pier 2 Column Conditions:

- the Begin faces of all three columns and the outside faces of Columns 1 & 3 contain significant areas of hollow sounding concrete and map cracking for the full height of the columns (Photo 54 <12-1854>). The concrete was solid throughout except in areas where small diameter spalls are forming.

- there are a few spalls -

o Column 2 on the top left end face, beneath the cap - a spall of about 8 inches wide, 12 inches high and to an exposed rebar and a crack progressing down the face for about 4 feet (Photo 52 <12-1872>),

o Column 2 on the end right face - a narrow spall about 4 inches wide, 1 inch deep, and about 3 ft high (Photo 53 <12-1862>)

The Pier 2 Cap Beam rates 3 and the Column rating is 3. The temporary steel columns and timber supports are in relatively good condition and would rate 5 or higher.

Sketches are provided with surface conditions for both piers.

Note ID: 1P1210331420009

Span 001 -- Utilities: Sign Structure -- Rated 4, Was 4

Referenced Photos:

2012

The horizontal clearance marker signs are dirty and losing the reflectivity. The post for the right sign is twisted clockwise toward the bridge, but still visible to on-coming traffic. No photo.

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Notes

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Note ID: 1P1210331420002

Span 003 -- Deck Elements: Scuppers -- Rated 3, Was 3

Referenced Photos:

2012:

In Span 3, the Right Scupper at Begin is plugged with asphalt (no photo). The rating of 3 is maintained.

The remainder of the scuppers in Spans 1 and 3 are functioning and would rate 5 or 6.

Note ID: 1P1210331420000

End Abut -- Abutment: Seats and Pedestals -- Rated 5, Was 5

Referenced Photos: "3"

2012:

End Abutment Pedestal 7 was partially spalled on the front left corner - more concrete was removed this inspection - the vertical corner rebar was exposed - no extensive deterioration at this time. Spall up to 12 inches wide at it widest - up to 3 inches deep and full height of pedestal. Spalling did not reach the bearing base plate. Other pedestals good condition. Keep condition rating at 5. Photo 1849.

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Abutments - Seats and
Pedestals - Begin, Ped 2
from right



Photo Number: 1

Photo Filename: 12-2889.JPG

Abutments - Seats and
Pedestals - Begin, Ped 3
from right



Photo Number: 2

Photo Filename: 12-2885.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Abutments - Seats and
Pedestals - End, Ped 7



Abutments - Backwall -
Begin from G4 looking left



Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Abutments - Backwall -
Begin G4



Photo Number: 5

Photo Filename: 12-2886.JPG

Abutments - Erosion -
Begin Right



Photo Number: 6

Photo Filename: 12-6999.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Abutments - Erosion -
End Left



Photo Number: 7

Photo Filename: 12-1850.JPG

Deck Elements -
Railings - Span 1 - Left -
5th post



Photo Number: 8

Photo Filename: 12-6944.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Deck Elements -
Railings - Span 1 - Right -
5th post



Photo Number: 9

Photo Filename: 12-6988.JPG

Deck Elements -
Railings - Span 2 - Left -
3rd post from end



Photo Number: 10

Photo Filename: 12-5667.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Deck Elements -
Railings - Span 3 - Right -
4th post



Photo Number: 11

Photo Filename: 12-5632.JPG

Superstructure -
Structural Deck - Span 1,
Bay 1 at begin
Superstructure - Primary
Members - Stringers -
Span 1, Bay 1 at begin
Superstructure - Paint -
Span 1, Bay 1 at begin



Photo Number: 12

Photo Filename: 12-7004.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Superstructure -
Structural Deck - Span 3,
Bay 1 at end
Superstructure - Primary
Members - Stringers -
Span 3, Bay 1 at end
Superstructure - Paint -
Span 3, Bay 1 at end



Photo Number: 13

Photo Filename: 12-1878.JPG

Superstructure -
Structural Deck - Span 3 -
middle of span
Superstructure - Paint -
Span 3 - middle of span



Photo Number: 14

Photo Filename: 12-1881.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Superstructure -
Structural Deck - Span 2,
overview from end



Photo Number: 15

Photo Filename: 12-5690.JPG

Superstructure - Primary
Members - Girders - Span
3 at Pier 2, Girder 3 at
Begin from right
Superstructure - Paint -
Spans 2 & 3 at Pier 2,
Girders 3 from right



Photo Number: 16

Photo Filename: 12-5649.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Superstructure - Primary
Members - Girders - Span
2, Girder 1 at End from left
Superstructure - Paint -
Span 2, Girder 1 at End
from left



Photo Number: 17

Photo Filename: 12-5677.JPG

Superstructure - Joints -
Pier 1 - from right



Photo Number: 18

Photo Filename: 12-6977.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Superstructure - Joints -
Pier 1 - G3 right face



Photo Number: 19

Photo Filename: 12-6958.JPG

Superstructure - Joints -
Pier 2 - from left



Photo Number: 20

Photo Filename: 12-5669.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Superstructure - Joints -
Pier 2 underside in Bay 5



Photo Number: 21

Photo Filename: 12-5638.JPG

Pier - Bearings, Bolts,
Pads - Pier 1 - Girders 1 -
left side



Photo Number: 22

Photo Filename: 12-6946.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Bearings, Bolts,
Pads - Pier 1 - Girders 3 -
left side
Superstructure - Paint -
Pier 1 - Girders 3 - left side



Photo Number: 23

Photo Filename: 12-2860.JPG

Pier - Bearings, Bolts,
Pads - Pier 2 - Girders 1 -
left side



Photo Number: 24

Photo Filename: 12-5661.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Bearings, Bolts,
Pads - Pier 2 - Girders 5 -
right side



Photo Number: 25

Photo Filename: 12-5637.JPG

Pier - Pedestals - Pier 1,
P1, Left face



Photo Number: 26

Photo Filename: 12-6947.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Pedestals - P6 Left
face



Photo Number: 27

Photo Filename: 12-6968.JPG

Pier - Pedestals - Pier 2,
from P3 looking right,
begin face



Photo Number: 28

Photo Filename: 12-5651.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Pedestals - Pier 2,
P1 & P2 begin face



Photo Number: 29

Photo Filename: 12-5655.JPG

Pier - Pedestals - Pier 2,
P1 end and left faces



Photo Number: 30

Photo Filename: 12-5660.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Pedestals - Pier 2,
P1 top from right



Photo Number: 31

Photo Filename: 12-5661.JPG

Pier - Pedestals - Pier 2,
P5 left side



Photo Number: 32

Photo Filename: 12-5643.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Pedestals - Pier 2,
Pds P6 & P7 begin side



Photo Number: 33

Photo Filename: 12-5634.JPG

Pier - Pedestals - Pier 2,
Pd P7 right top side



Photo Number: 34

Photo Filename: 12-5619.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Cap Beam - Pier 1
- between Bay 2 Temp
Steel Column and Column
3 - Begin face



Photo Number: 35

2012/11/04
Photo Filename: 12-2867.JPG

Pier - Cap Beam - Pier 1
- between Column 1 and
Bay 1 Temp Steel Column
- Begin face



Photo Number: 36

2012/11/04
Photo Filename: 12-2870.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Cap Beam - Pier 1
- between Bay 1 Temp
Steel Column and Column
2 - Begin face



Photo Number: 37

Photo Filename: 12-2869.JPG

Pier - Cap Beam - Pier 1
- between Bay 2 Temp
Steel Column and Column
2 - End face



Photo Number: 38

Photo Filename: 12-6972.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Cap Beam - Pier 1
- between Column 2 and
Bay 2 Temp Steel Column
- Begin face



Pier - Cap Beam - Pier 1
- between Bay 2 Temp
Steel Column and Column
3 - End face



Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Cap Beam - Pier 2
- between Bay 1 Temp
Steel Column and Column
3 - Begin face



Photo Number: 41

Photo Filename: 12-5651.JPG

Pier - Cap Beam - Pier 2
- between Column 1 and
Bay 1 Temp Steel Column
- Begin face
Pier 2 - Column 1 Begin
top



Photo Number: 42

Photo Filename: 12-5655.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Cap Beam - Pier 2
- Left face



Photo Number: 43

Photo Filename: 12-5660.JPG

Pier - Cap Beam - Pier 2
- Right face



Photo Number: 44

Photo Filename: 12-5620.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Cap Beam - Pier 2
- between Column 1 and
Bay 1 Temp Steel Column
- Begin and bottom
face



Photo Number: 45

Photo Filename: 12-5679.JPG

Pier - Cap Beam - Pier 2
- between Column 1 and
Bay 1 Temp Steel Column
- End and bottom
face



Photo Number: 46

Photo Filename: 12-1876.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Cap Beam - Pier 2
- between Bay 1 Temp
Steel Column and Col 2 -
bottom face



Photo Number: 47

Photo Filename: 12-1873.JPG

Pier - Columns - Pier 1 -
Begin face from right



Photo Number: 48

Photo Filename: 12-2895.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Columns - Pier 1 -
Begin face from left



Photo Number: 49

Photo Filename: 12-7008.JPG

Pier - Columns - Pier 1 -
End face of left half



Photo Number: 50

Photo Filename: 12-6991.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier - Columns - Pier 1 -
End face of right half



Photo Number: 51

Photo Filename: 12-6990.JPG

Pier 2 - Columns - Col 2
- End Top Left



Photo Number: 52

Photo Filename: 12-1872.JPG

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Pier 2 - Columns - Col 2
- End Right near bottom



Pier 2 - Column 3 End
Face



Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Photos in Photo Number Order

Carried: 871 87111082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Deck Elements -
Railings - underside
overview of bridge rail
support system - Right
side at Pier 2
looking towards End



Photo Number: 55

Photo Filename: 12-5623.JPG

Deck Elements -
Railings - underside of
bridge rail support system
- Left side near end of
Span 2



Photo Number: 56

Photo Filename: 12-5671.JPG

Inspection Date: 11/4/2012**RC: 11 BIN: 1033142****Inspection Sketches in Sketch SysID Order****Carried: 87I 87I11082027****Crossed: ALBANY SHAKER RD****CheckValue: 1,803,927,581****Sketch ID: 1P1210331420000****Sketch Filename: 12-BD244_Flag_Rem_of_Y_1P120026.wpd**

Span 002 -- Pier: Pedestals -- Rated 2, Was 2

Referenced Photos: "28", "29", "30", "31", "32", "33", "34"

BD 244

NYSDOT BRIDGE INSPECTION REPORT

SHEET		OF	
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**Flag Removal/Inactivation
Report**

Carried:	87I 87I11082027	R/C - BIN:	1 / 1 - 1 0 3 3 1 4 2
Crossed:	ALBANY SHAKER RD	Insp. Date:	10/13/2012
County:	ALBANY	Inspector:	Phil Pierce, P.E. 066954

Flag Number:	1P120026
Type of Flag: (Select one)	RED Flag
	<input checked="" type="checkbox"/> YELLOW Flag
	SAFETY Flag

Flag is to be: (Select one)	<input checked="" type="checkbox"/> Removed
	Inactivated

Certification By:	Phil Pierce, P.E. 066954
--------------------------	--------------------------

Action Taken:	<p>Yellow Flag 1P120026 was issued to replace the inactivated Red Flag 1T110020 for deteriorated and cracked Pedestal 7 of Pier 2. The Red Flag was inactivated by DOT following installation of a temporary steel post beneath the Span 2 end diaphragm on the left side of Girder 7 in the fall of 2011.</p> <p>The YELLOW Structural Flag 1P120026 was issued this inspection for this situation to ensure annual review of conditions at this pedestal. However, upon discussion with Region 1 personnel, it was decided that the new flag should remain Red, rather than Yellow. Accordingly, this removal is for the 2012 Yellow.</p> <p>The inspection date indicated above was the date that this conditional situation was encountered. The final date of inspection was 11/4/12. The date of preparation of this removal is based on the discussion with Region 1 on November 16, 2012.</p>
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Prepared By:	Phil Pierce, P.E. 066954
Date:	11/17/2012

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Sketch ID: 1P1210331420002

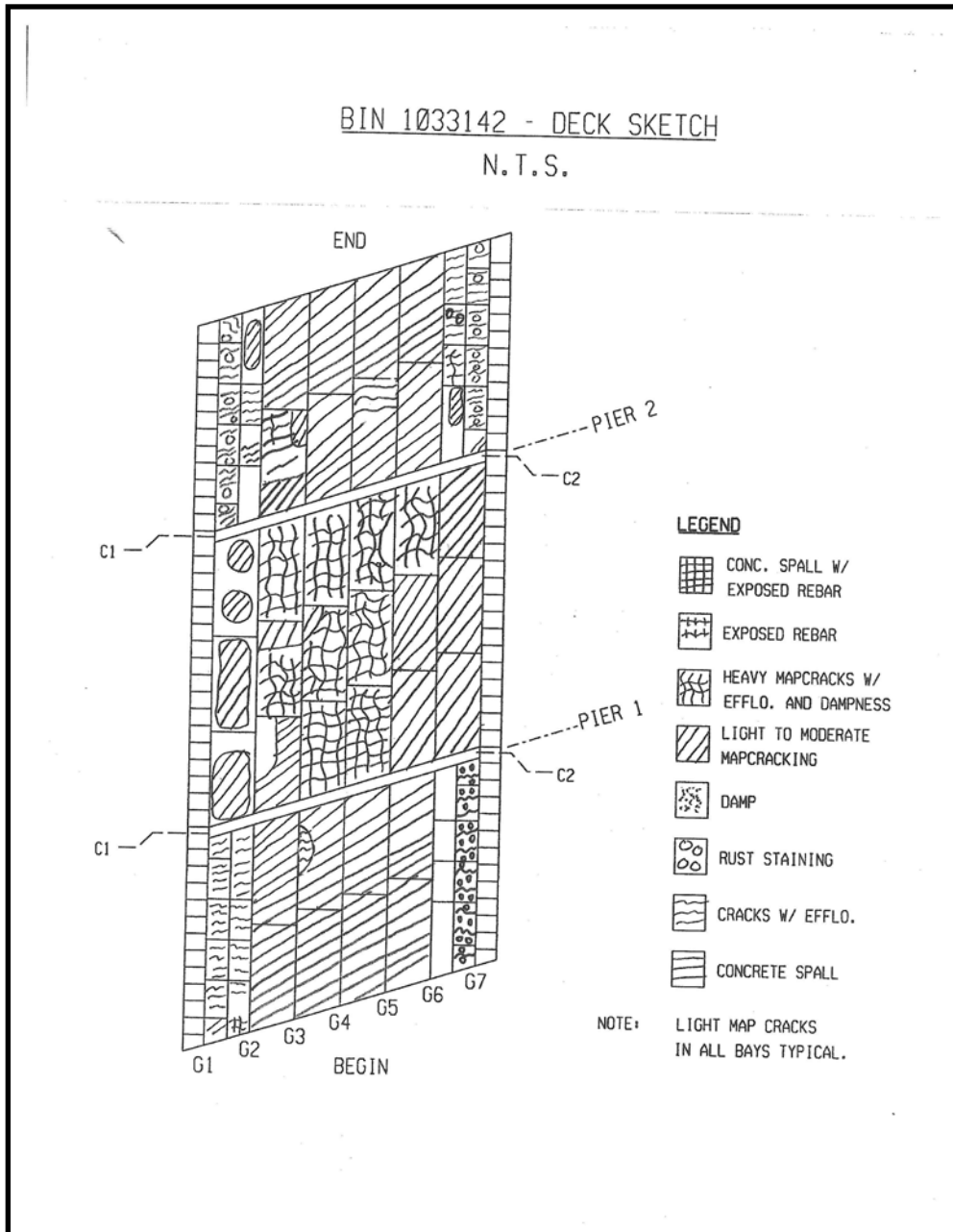
Sketch Filename: SketchDeck.TIF

Span 001 -- Superstructure: Structural Deck -- Rated 3, Was 3

Span 002 -- Superstructure: Structural Deck -- Rated 4, Was 4

Span 003 -- Superstructure: Structural Deck -- Rated 3, Was 3

Referenced Photos: "12", "15", "13", "14"



Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Sketch ID: 1P1210331420003

Sketch Filename: 12-P2_Ped7.tif

Span 002 -- Pier: Pedestals -- Rated 2, Was 2

Referenced Photos: "28", "29", "30", "31", "32", "33", "34"

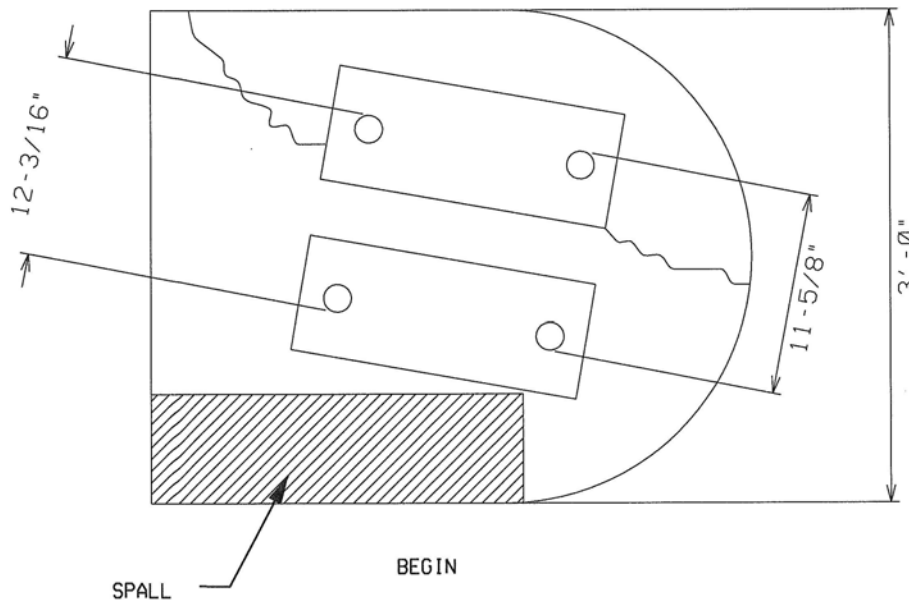
1033142

PIER 2, G7 PEDESTAL SKETCH SKETCH
(N.T.S.)

DATE: 09/09/11

PIER 2, G7 PEDESTAL PLAN VIEW

END



Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Sketch ID: 1P1210331420004



Sketch Filename: 12-BD186.wpd

General Sketch for Bridge

Referenced Photos:

12Bd186-N1

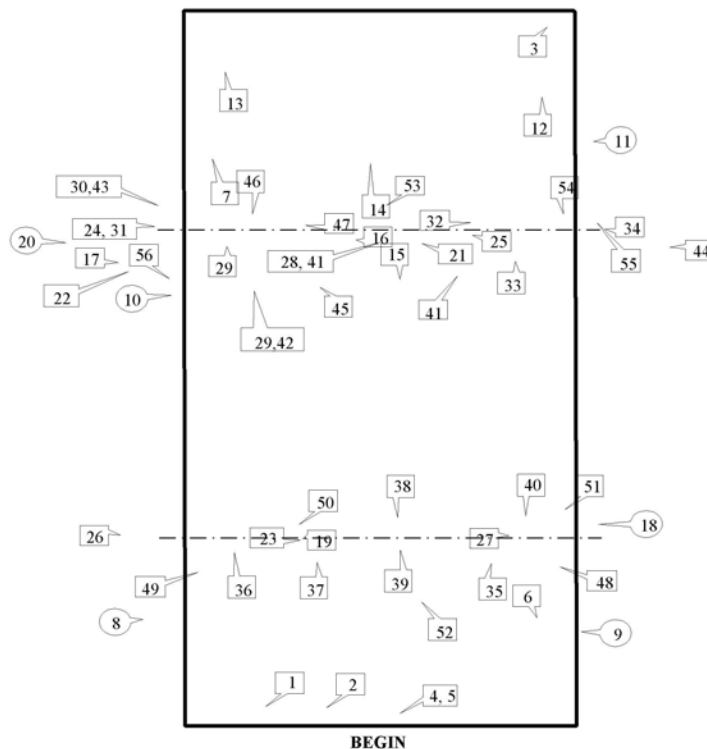
NYS DEPT. OF TRANSPORTATION

R/C - BIN:	1/1 1033142	YEAR:	2012
FEATURE CARRIED:	I 87 NB		
FEATURE CROSSED:	ALBANY-SHAKER ROAD		
LEGEND:	PHOTO ABOVE DECK LEVEL 	PHOTO BELOW DECK LEVEL 	



NORTH

END



Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Sketch ID: 1P1210331420005

Sketch Filename: SketchPier1.TIF

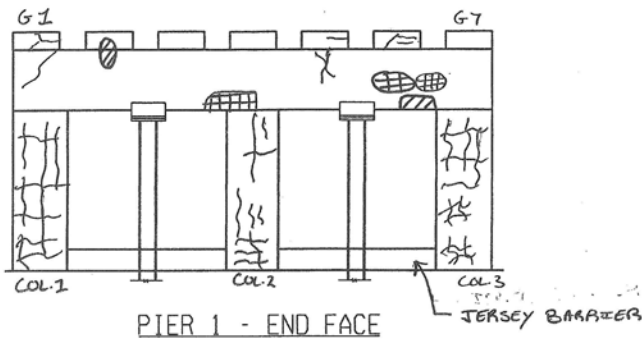
Span 001 -- Pier: Cap Beam -- Rated 3, Was 3

Span 001 -- Pier: Pier Columns -- Rated 3, Was 3

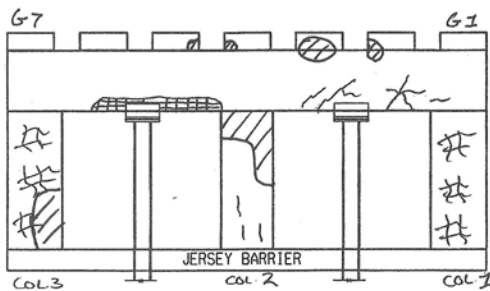
Referenced Photos: "35", "36", "37", "38", "39", "40", "48", "49", "50", "51"

BIN 1033142 - PIER SKETCHES

PIER 1 - BEGIN FACE



PIER 1 - END FACE



PIER 1 - UNDERSIDE OF CAPBEAM



LEGEND

- CONC. SPALL W/ EXPOSED REBAR
- CONCRETE SPALL
- CRACKS W/ EFFLO. AND RUST STAINS
- MAPCRACKS W/ RUST STAINS
- HOLLOW AND DELAMINATED AREAS

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Sketches in Sketch SysID Order

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Sketch ID: 1P1210331420006

Sketch Filename: SketchPier2.TIF

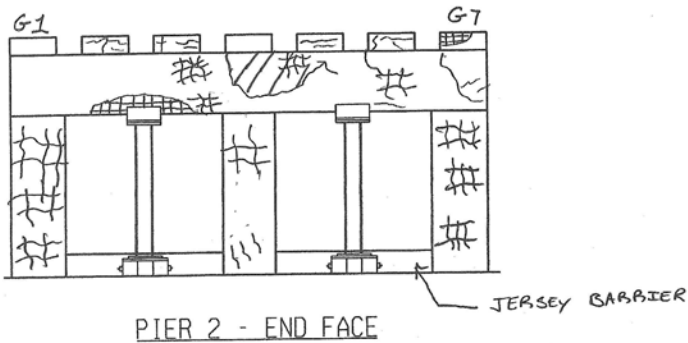
Span 002 -- Pier: Cap Beam -- Rated 3, Was 4

Span 002 -- Pier: Pier Columns -- Rated 3, Was 3

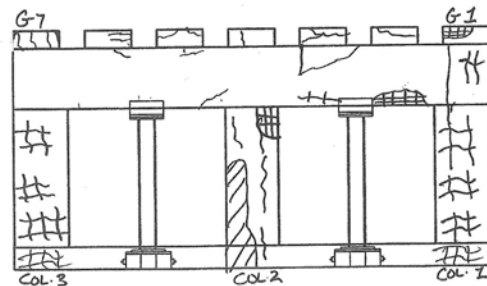
Referenced Photos: "41", "42", "43", "44", "45", "46", "47", "52", "53", "54"

BIN 1033142 - PIER SKETCHES
N.T.S.

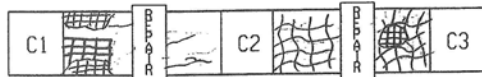
PIER 2 - BEGIN FACE



PIER 2 - END FACE



PIER 2 - UNDERSIDE OF CAPBEAM



LEGEND

- CONC. SPALL W/
EXPOSED REBAR
- CONCRETE SPALL
- CRACKS W/ EFFLO.
AND RUST STAINS
- MAPCRACKS W/
RUST STAINS
- HOLLOW AND
DELAMINATED AREAS

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Gen. Rec., Postings, Federal Ratings, etc.

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD CheckValue: 1,803,927,581

Overall Condition:

GENERAL RECOMMENDATION: 4

Computed Condition Rating: 3.828

Problems Requiring Action:

FURTHER INVESTIGATION IS NEEDED

Analytical review of deteriorated br. rail support system.

RED, YELLOW, and SAFETY Flags Issued

POSTINGS:

Inspector Confirmed existing Posting data as correct.

Posted Vertical Clearance ON the bridge is: No Posting

Posted Vertical Clearance UNDER the bridge is: No Posting

No Load Restriction is posted on this bridge

Overloads Observed:

NO Overload Vehicles were observed on this bridge

FEDERAL RATINGS:

NBI Deck Condition: 4

NBI Superstruct Condition: 5

NBI Substruct Condition: 4

NBI Channel Condition: N

NBI Culvert Condition: N

Diving Inspection Needs:

Diving Inspection Required? No

Date of Last Diving Inspection: No Date

Inventory Problems:

Inventory Problems Exist? No

Miscellaneous:

Time Required to Inspect Bridge: 6 Hours

Lane Closure Needs: By Contract for 4 Hours

No Railroad Flagging Required

No Pedestrian Fence

No Snow Fence

The BIN Plate is in OK condition

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Gen. Rec., Postings, Federal Ratings, etc.

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Special Emphasis Inspection Required:

Non-Redundant/Fracture Critical Members - No
Pin and Hangers - No
Fatigue-Prone Welds - No
Non-Categorized Fatigue-Prone Details - No
Other (Specified in Text) - No

Special Emphasis Details:

No Special Emphasis Inspection Required.

General Notes To the Next Inspector:

Access: walking, ext ladder, bucket truck with MPT along Albany Shaker Road (Right Lane closure with flaggers in each direction - no lane closure under the middle of Span 2). No traffic restriction on I87. Lane closures for BINs 1033141 and 1033142 were done simultaneously.

BIN plate is mounted to the begin right wingwall and in good condition.

Improvements Observed:

2012: Bridge rail post broken rear bolts replaced at random locations.
2011: Steel Columns installed under Cap Beam bays of both piers, see remarks for details.
2010:
1. Loose concrete was removed from both piers.
2. At pier 1, the begin face of the G1 pedestal has been repaired since the previous inspection.

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Review Progress and Personnel Present at Inspection

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Inspection Submission Status:

Submitted to QC Engineer on: 12/14/2012
QC Submission Number: P0121101

QC Review Completed: 12/16/2012
QC Engineer: William J. Sabbag

Submitted to Liaison Engineer on: 12/17/2012
Liaison Submission Number: 01240

Liaison Review Completed: 1/2/2013
Liaison Engineer: ID: 51000042

Submitted for BIIS Processing on: 1/4/2013
BIIS Submission Number: .kp1

Current Status: Keypunched, Sent to BIIS
Check Value: 1,803,927,581

Personnel Present During Inspection:

Phil C. Pierce	- Team Leader
Nicholas Bennett	- Assistant Team Leader
John DiVirgilio	- WZTC
Wilford Maynard	- WZTC
Jack Schloss	- WZTC
Nick Yost	- Bucket Truck Operator

Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120026

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Prompt Interim Action Recommended: No

Inspector: Pierce, Phil C.
Flag Number: 1P120026

Date Discovered: 10/13/2012
Supersedes Flag Number: _____

Bridge Description:

BIN: 1033142 Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Region: 1 - Albany County: 1 - Albany
Political Unit: 0187 - Town of COLONIE
Residency Code: - N/A
Primary Owner: 10 - State Department of Transportation
Secondary Owner: 99 - One Agency - Listed in first subfield
Primary Maintenance: 10 - State - Highway Maintenance
Secondary Maintenance: 99 - One Agency - Listed in first subfield
Year Built: 1959 Not Posted For Load

Number of Spans by Type:	Num	Type	Description
	003	- 109	- Steel - Rolled Beam, Multi-Girder

Bridge is wholly or partially owned or maintained by NYSDOT.

Description of Flagged Condition:

YELLOW Structural Flag 1P120026. Deteriorated & Cracked pedestal.

Pier 2, Pedestals, Rating 2

Direction of Orientation = Northeast (Southwest Abutment is Begin)

****NEW FLAG**** (Previous 2011 Red Flag 1T110020 was inactivated by DOT)

At Pier 2, the Pedestal for G7 (Right Fascia) has a 3/8" wide crack on the Right side emanating from under the Span 3 bearing masonry plate. This crack extends down the Right face 2 ft to a hairline crack into a spall of soft crumbling concrete. The crack is also visible emanating from the Left side of the Span 3 bearing and extends down the End Left corner 16" terminating at the top of cap beam. There is minor spalling and cracking on both Left and End faces at the corner. The primary crack on the Right face of the pedestal is along a cold joint of an older repair; reference the 2004 inspection Photo 9.

The condition of this pedestal has not been mentioned in inspections since the 2004 Biennial until the 2011 inspection which led to issuance of a Red Flag - 1T110020. A temporary steel post was installed beneath the Span 2 end diaphragm on the left side of Girder 7. That work led to inactivation of the Red Flag by DOT on 9/27/2011.

Conditions on the right face appear to not have worsened substantially since either the 2011 or 2004 photos. Monitoring dimensions were taken at the Left and Right anchor bolts in 2011 - out-to-out (not center-to-center) dimensions are as follows:

Left = 12 3/16"

Right = 11 5/8"

See attached sketch for details. The dimensions remain the same this inspection. It therefore appears that the conditions are not progressing much if any since 2004. However, carefully inspecting this condition/situation annually commensurate with Yellow Flag status is prudent.

Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120026

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

5 Photos/Sketches Attached

Verbal Notifications: (For RED Flags and Safety Flags with PIA only)

To: _____ of Regional Office on _____ at _____

Signature: (a signed copy of this report will be placed in the BIN folder)

Flagged Bridge Report Completed By: Pierce, Phil C. on 10/17/2012

Flagged Bridge Report Signed By: _____ on _____
Pierce, Phil C.

(This PDF Report Created: 1/4/2013 3:46:26 PM)

Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120026 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-5619.JPG - Attached to Yellow Flag 1P120026

Pier 2, Ped 7 Right Face closeup



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120026 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-5620.JPG - Attached to Yellow Flag 1P120026

Pier 2, Rt Face Ped 7 - overview



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120026 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

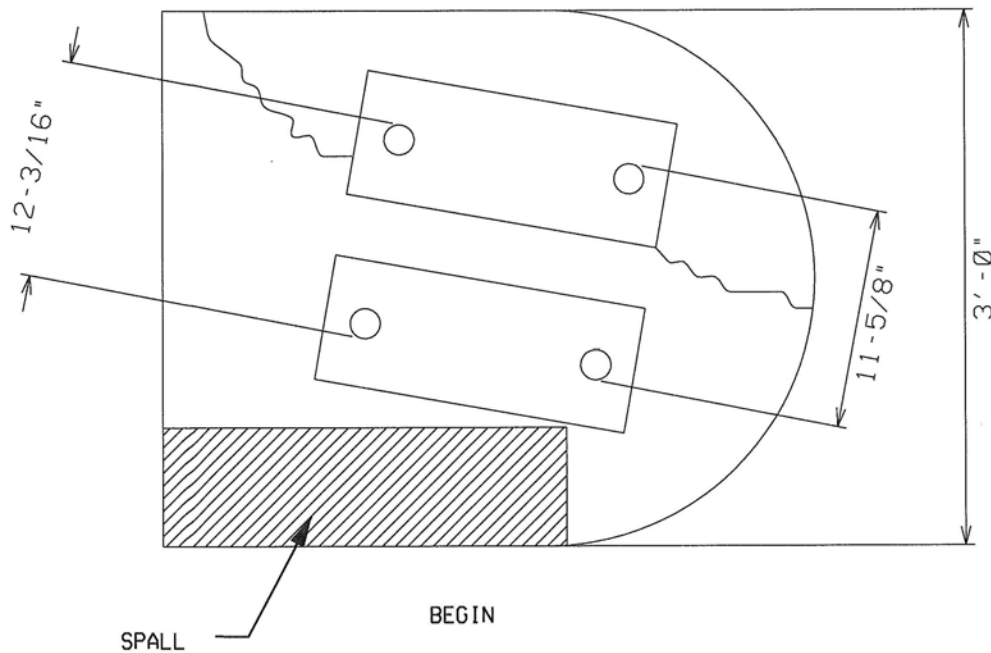
12-P2_Ped7.tif - Attached to Yellow Flag 1P120026

Monitoring Dimensions - taken 2011 remain the same in 2012

1033142	PIER 2, G7 PEDESTAL SKETCH SKETCH (N.T.S.)	DATE: 09/09/11
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PIER 2, G7 PEDESTAL PLAN VIEW

END



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120026 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

ElevationRight.JPG - Attached to Yellow Flag 1P120026

Standard Photo



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120026 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Pier2.JPG - Attached to Yellow Flag 1P120026

Pier 1 overview



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Safety Flag 1P120027

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Prompt Interim Action Recommended: No

Inspector: Pierce, Phil C.
Flag Number: 1P120027

Date Discovered: 10/13/2012
Supersedes Flag Number: 1T110019

Bridge Description:

BIN: 1033142 Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Region: 1 - Albany County: 1 - Albany
Political Unit: 0187 - Town of COLONIE
Residency Code: - N/A
Primary Owner: 10 - State Department of Transportation
Secondary Owner: 99 - One Agency - Listed in first subfield
Primary Maintenance: 10 - State - Highway Maintenance
Secondary Maintenance: 99 - One Agency - Listed in first subfield
Year Built: 1959 Not Posted For Load

Number of Spans by Type:	Num	Type	Description
	003	- 109	- Steel - Rolled Beam, Multi-Girder

Bridge is wholly or partially owned or maintained by NYSDOT.

Description of Flagged Condition:

Safety Flag 1P120027 - supersedes Safety Flag 1T110019. Loss of Bridge Rail anchorage.

Span 2, TP 350/22 (Bridge Railing), Rating 3

Direction of Orientation = Northeast (Southwest Abutment is Begin)

In all 3 spans the bridge rail post anchorage is bolted through a steel plate support structure. Under the rail post base plate there is a build-up of pack rust. This pack rust is causing the single outboard anchor bolt to break off at the nut. There are a total of 3 anchor bolts; therefore, a loss of 33% of the anchorage. The bolts remain in place only by rust and friction with a potential for the bolts in Span 2 to fall out onto live traffic. This flag follows a Safety Flag issued in 2011 for similar findings - this inspection encountered some additional locations.

The following locations were found to have the outboard bolt broken and missing:

Span 2 - Right side - the last two posts. Left side - last post and 3rd from last.
Span 3 - Right side - the 4th post.

Only the Span 2 location is being flagged due to the broken bolts on consecutive posts and potential for bolts to drop onto live traffic.

It is noted that this flag is issued following inspection of only the end half of the bridge at this time. A return to complete the inspection of the begin half will not occur for three weeks. Accordingly, it is expected that a companion flag will be issued at that time for additional locations.

Additionally - the bridge rail has been retrofitted in the past with a pair of box beams in front of the original 2 rail system. The extra box beams are anchored to the posts with bolts and plates on the rear face of the post. In some instances, the plates have become loose and rotated becoming partially or fully ineffective in anchoring the box beam. The following locations were noted:

Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Safety Flag 1P120027

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Span 2, Left side, 3rd post from end - loose plate - photo 5667

4 Photos/Sketches Attached

Verbal Notifications: (For RED Flags and Safety Flags with PIA only)

To: _____ of Regional Office on _____ at _____

Signature: (a signed copy of this report will be placed in the BIN folder)

Flagged Bridge Report Completed By: Pierce, Phil C. on 10/16/2012

Flagged Bridge Report Signed By: _____ on _____
Pierce, Phil C.

(This PDF Report Created: 1/4/2013 3:46:27 PM)

Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Safety Flag 1P120027 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-5632.JPG - Attached to Safety Flag 1P120027

Span 3, Right, typical view of missing bolt



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Safety Flag 1P120027 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-5667.JPG - Attached to Safety Flag 1P120027

Span 3 Right - typical view of loose rear anchor plate



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Safety Flag 1P120027 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-5668.JPG - Attached to Safety Flag 1P120027

Overview of bridge rail across top of deck at Pier 2



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

Safety Flag 1P120027 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

ElevationRight.JPG - Attached to Safety Flag 1P120027

Standard Photo



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Prompt Interim Action Recommended: No

Inspector: Pierce, Phil C.
Flag Number: 1P120028

Date Discovered: 11/4/2012
Supersedes Flag Number: 1T110018

Bridge Description:

BIN: 1033142 Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Region: 1 - Albany County: 1 - Albany
Political Unit: 0187 - Town of COLONIE
Residency Code: - N/A
Primary Owner: 10 - State Department of Transportation
Secondary Owner: 99 - One Agency - Listed in first subfield
Primary Maintenance: 10 - State - Highway Maintenance
Secondary Maintenance: 99 - One Agency - Listed in first subfield
Year Built: 1959 Not Posted For Load

Number of Spans by Type:	Num	Type	Description
	003	- 109	- Steel - Rolled Beam, Multi-Girder

Bridge is wholly or partially owned or maintained by NYSDOT.

Description of Flagged Condition:

Pier 1; Item PIER CAP BEAM and COLUMNS; Rated 3; DO=NE

YELLOW FLAG 1P120028 (Supersedes Yellow Flag 1T110018)

* * * DETERIORATED PIER CAP BEAM AND COLUMNS * * *

The concrete pier structure supports seven girders with a continuous cap beam over three circular columns. In response to deterioration of the cap beam and columns, initially cited in Yellow Flag 1U10031, temporary repairs were performed in 2011 by the installation of steel columns under the midspan of both cap beam bays. Those at Pier 1 are surrounded by soil - it is unknown if they extend to the top of the original continuous strip footing - the columns cannot be shifted - the amount of load they may be supporting is unknown.

The CAP and COLUMNS contain many deficiencies as summarized below:

Pier 1 Cap Conditions:

The top of the cap is in generally acceptable condition; however, previously installed protective coatings have cracked, lost bond, and curled from the top of the concrete retaining moisture.

- The sides of the cap have extensive areas of hollow concrete. The End face of the Pier 1 cap contains approximately 50% hollow surface. The Begin face has much less hollow area.

- The sides of the cap contain a spalled area on the Begin face - about 1 square foot at mid-height in Bay 2 to the right of the temporary steel column - photo 12-2867

- The underside of the cap is in the worst condition with significant deterioration and spalling as follows:

- o Between Column 1 and the Bay 1 Temp Steel Column, there is no spalling, but there is cracking and minor leaching with hollowness over less than 20% of the area - photo 12-2870,

- o Between the Bay 1 Temp Steel Column and Column 2, the underside is spalled over 40 percent of the surface area, with the larger portion adjacent to the temp column. The spall is generally along the middle of

Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

the bottom face. There are four exposed main horizontal steel reinforcing bars with an estimated 5-10 percent section loss. Several stirrups are also exposed with minor section loss - photo 12-2869, o Between Column 2 and Bay 2 Temp Steel Column, the underside is spalled over approximately 50% of its area with concurrent spalling along the bottom several inches of the End face. There are many exposed main horizontal steel reinforcing bars with 40 to 50 percent of the steel surface area exposed. The section loss ranges from 0 to 10 percent with de-bonding found of only one bar - photos 12-6972 and 12-2868.

o Between the Bay 2 Temp Steel Column and Column 3, the underside is spalled over approximately 40% of its area, mostly adjacent to the temp column, with concurrent spalling along the bottom few inches of the End face. Exposed steel conditions are similar to the other portion of Bay 2 to the left of the temporary column, but not quite as severe - photo 6971.

Pier 1 Column Conditions:

- The End faces of all three columns and the outside faces of Columns 1 & 3 contain significant areas of hollow sounding concrete and extensive map cracking for the full height of the columns (photos 12-2895, 7008, 6991 & 6990). It is estimated that these conditions affect 60-75% of the face of Columns 1 and 3 and 20-30% of the face of Column 2.
- There were no spalls on the faces of the columns at the time of this inspection.

Significance:

Comparison of description and photos from the past inspection to this one indicates that additional spalling has developed at the bottom of the cap. Further, additional surface cracking of the columns appears to have occurred. However, there does not appear to be sufficient further deterioration to warrant other than reissuance of a Yellow Flag to force continued annual evaluation of conditions.

10 Photos/Sketches Attached

Verbal Notifications: (For RED Flags and Safety Flags with PIA only)

To: _____ of Regional Office on _____ at _____

Signature: _____ (a signed copy of this report will be placed in the BIN folder)

Flagged Bridge Report Completed By: Pierce, Phil C. on 11/8/2012

Flagged Bridge Report Signed By: _____ on _____
Pierce, Phil C.

(This PDF Report Created: 1/4/2013 3:46:27 PM)

Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2867.JPG - Attached to Yellow Flag 1P120028

Spall in Begin face of cap - mid-height in Bay 2



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2868.JPG - Attached to Yellow Flag 1P120028

Underside of cap - Begin face - between Column 2 and the Bay 2 temp steel column



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2869.JPG - Attached to Yellow Flag 1P120028

Underside of cap - Begin face - between the Bay 1 temp steel column and Column 2



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2870.JPG - Attached to Yellow Flag 1P120028

Underside of cap - Begin face - between Column 1 and the Bay 1 temp steel column



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-2895.JPG - Attached to Yellow Flag 1P120028

Overview - Begin face from Right



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6971.JPG - Attached to Yellow Flag 1P120028

Underside of cap - End face - between the Bay 2 temp steel column and Column 3



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6990.JPG - Attached to Yellow Flag 1P120028

Overview - End face - Right portion of pier



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-6991.JPG - Attached to Yellow Flag 1P120028

Overview - End face - Left portion of pier



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-7008.JPG - Attached to Yellow Flag 1P120028

Overview - Begin face from Left



Discovery Date: 11/4/2012

RC: 11 BIN: 1033142

Yellow Flag 1P120028 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Pier1.JPG - Attached to Yellow Flag 1P120028

Standard Photo



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

RED Flag 1P120031

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Prompt Interim Action Recommended: No

Inspector: Pierce, Phil C.
Flag Number: 1P120031

Date Discovered: 10/13/2012
Supersedes Flag Number: 1T110020

Bridge Description:

BIN: 1033142 Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Region: 1 - Albany County: 1 - Albany
Political Unit: 0187 - Town of COLONIE
Residency Code: - N/A
Primary Owner: 10 - State Department of Transportation
Secondary Owner: 99 - One Agency - Listed in first subfield
Primary Maintenance: 10 - State - Highway Maintenance
Secondary Maintenance: 99 - One Agency - Listed in first subfield
Year Built: 1959 Not Posted For Load

Number of Spans by Type:	Num	Type	Description
	003	- 109	- Steel - Rolled Beam, Multi-Girder

Bridge is wholly or partially owned or maintained by NYSDOT.

Description of Flagged Condition:

RED Structural Flag 1P120031. Deteriorated & Cracked Pedestal.

Pier 2, Pedestals, Rating 2

Direction of Orientation = Northeast (Southwest Abutment is Begin)

SUPERSEDES 2011 Red Flag 1T110020 which was inactivated by DOT

At Pier 2, the Pedestal for G7 (Right Fascia) has a 3/8" wide crack on the Right side emanating from under the Span 3 bearing masonry plate. This crack extends down the Right face 2 ft to a hairline crack into a spall of soft crumbling concrete. The crack is also visible emanating from the Left side of the Span 3 bearing and extends down the End Left corner 16" terminating at the top of cap beam. There is minor spalling and cracking on both Left and End faces at the corner. The primary crack on the Right face of the pedestal is along a cold joint of an older repair; reference the 2004 inspection Photo 9.

The condition of this pedestal has not been mentioned in inspections since the 2004 Biennial until the 2011 inspection which led to issuance of a Red Flag - 1T110020. A temporary steel post was installed beneath the Span 2 end diaphragm on the left side of Girder 7. That work led to inactivation of the Red Flag by DOT on 9/27/2011.

Conditions on the right face appear to NOT have worsened substantially since either the 2011 or 2004 photos. Monitoring dimensions were taken at the Left and Right anchor bolts in 2011 - out-to-out (not center-to-center) dimensions are as follows:

Left = 12 3/16"

Right = 11 5/8"

See attached sketch for details. The dimensions remain the same this inspection. It therefore appears that the conditions are not progressing much if any since 2004. However, carefully inspecting this condition/situation annually commensurate with structural flag status is prudent.

Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

RED Flag 1P120031

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

The 2012 structural flag was initially issued as Yellow 1P120026 with a discovery date of 10/13/12, but changed to this Red Flag 1P120031 upon discussion with Region 1 - discover date left the same as 10/13/12. The Yellow 1P120026 will be removed by this Team Leader.

5 Photos/Sketches Attached

Verbal Notifications: (For RED Flags and Safety Flags with PIA only)

To: Doug Daniels of Regional Office on 11/16/2012 at 2:30:00 PM

Signature: (a signed copy of this report will be placed in the BIN folder)

Flagged Bridge Report Completed By: Pierce, Phil C. on 11/17/2012

Flagged Bridge Report Signed By: _____ on _____
Pierce, Phil C.

(This PDF Report Created: 1/4/2013 3:46:28 PM)

Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

RED Flag 1P120031 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-5619.JPG - Attached to RED Flag 1P120031

Pier 2, Ped 7 Right Face closeup



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

RED Flag 1P120031 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-5620.JPG - Attached to RED Flag 1P120031

Pier 2, Rt Face Ped 7 - overview



Discovery Date: 10/13/2012

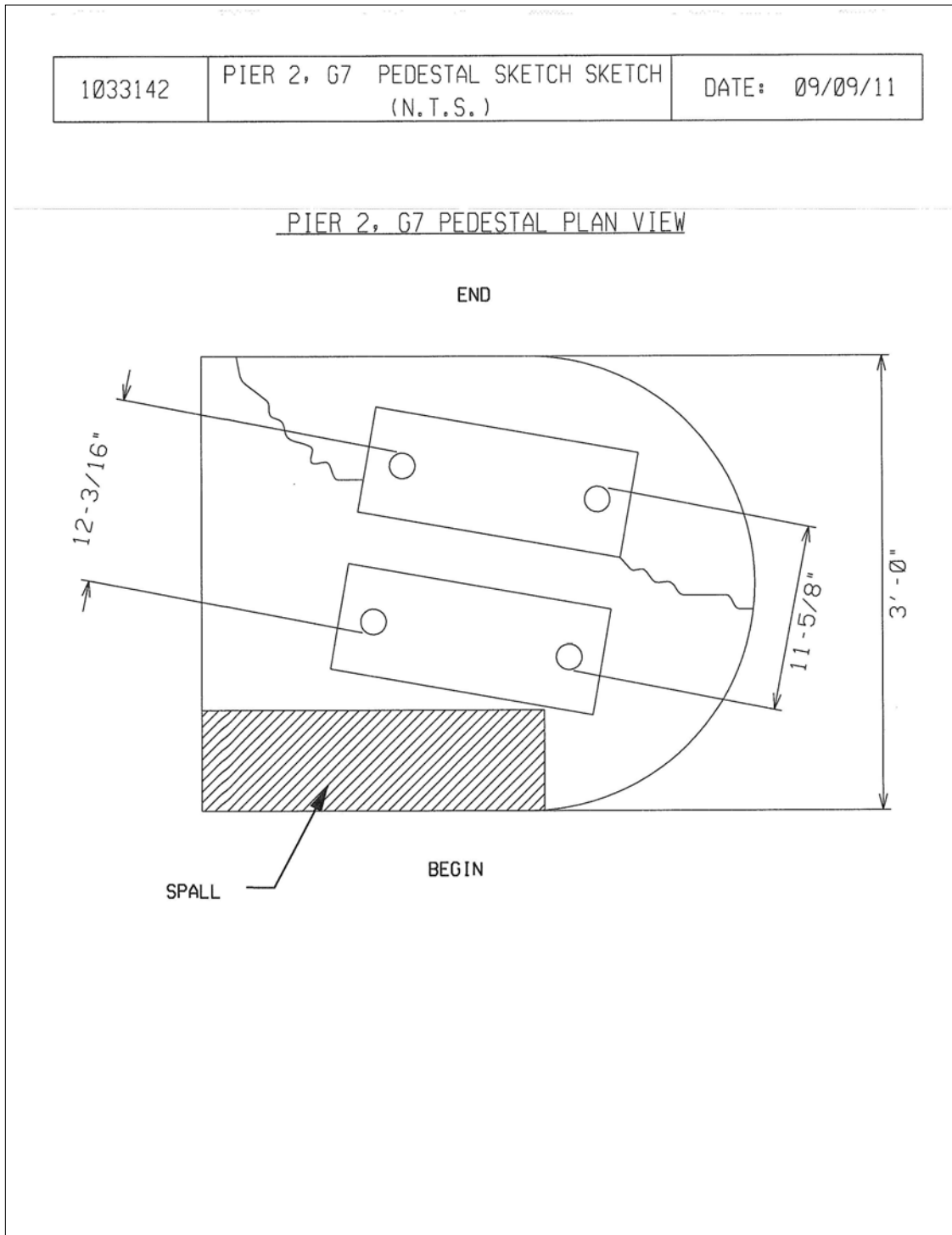
RC: 11 BIN: 1033142

RED Flag 1P120031 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

12-P2_Ped7.tif - Attached to RED Flag 1P120031

Monitoring Dimensions - taken 2011 remain the same in 2012



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

RED Flag 1P120031 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

ElevationRight.JPG - Attached to RED Flag 1P120031

Standard Photo



Discovery Date: 10/13/2012

RC: 11 BIN: 1033142

RED Flag 1P120031 Attachment

Carried: 87I 87I11082027 Crossed: ALBANY SHAKER RD

Pier2.JPG - Attached to RED Flag 1P120031

Pier 2 Overview



Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Inspection Access Requirements

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Equipment Required for Inspection

Access Requirement Changes WERE Noted During This Inspection.
This Listing is from the Inspection.

ACCESS CATEGORIES FOR ENTIRE BRIDGE

Required: Lane Closure, Shadow Vehicle

ACCESS CATEGORIES FOR SPAN 1

Required: Walking, Step Ladder, Extension Ladder, Lane Closure

Required: Shadow Vehicle

ACCESS CATEGORIES FOR SPAN 2

Required: Walking, Step Ladder, Small Lift, Lane Closure

Required: Shadow Vehicle

ACCESS CATEGORIES FOR SPAN 3

Required: Walking, Step Ladder, Extension Ladder, Lane Closure

Required: Shadow Vehicle

Inspection Date: 11/4/2012

RC: 11 BIN: 1033142

Culvert Measurements

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

CheckValue: 1,803,927,581

Culvert Measurements

NO CULVERT DATA FOR BIN 1033142

Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

1033142H.JPG



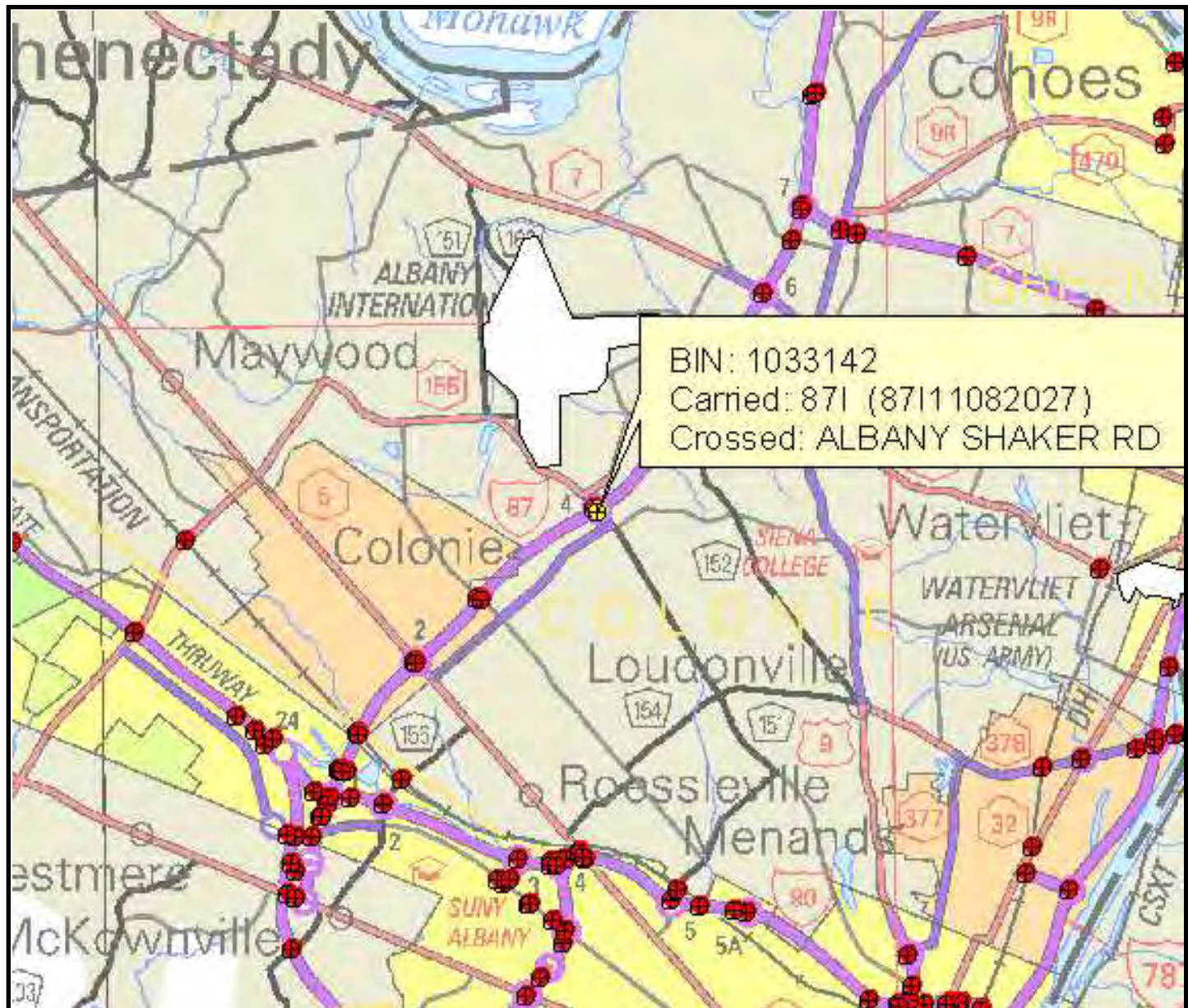
Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

1033142_LOCATION_MAP.JPG



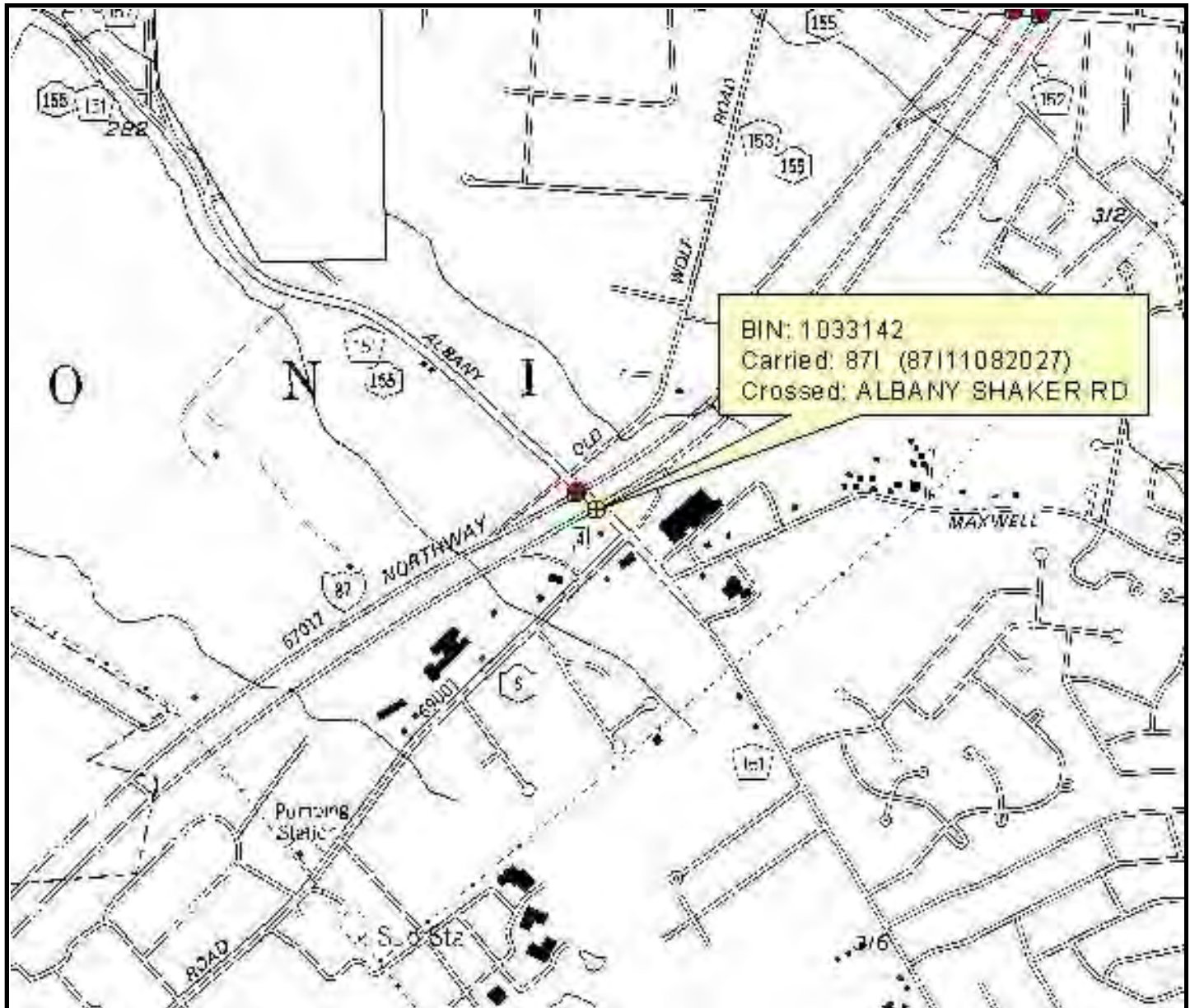
Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

1033142_QUAD_MAP.JPG



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

AbutmentBegin.jpg



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

AbutmentEnd.JPG



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

ApproachBegin.jpg



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

ApproachEnd.jpg



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

ElevationLeft.jpg



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

ElevationRight.JPG



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

FeatureCrossedLeft.jpg



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

FramingSpan2.jpg



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

FramingSpan3.JPG



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

Pier1.JPG



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

Pier2.jpg



Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

PWK.jpg

BIN: 1-03314-2

OVER: I-87 N.B.

UNDER: ALBANY SHAKER ROAD

LENGTH: 160 FT.

WIDTH: 42 FT.

YR BLT: 1959

3 SPANS

Standard Photos

RC: 11 BIN: 1033142

Carried: 87I 87I11082027

Crossed: ALBANY SHAKER RD

TopOfDeck.JPG



